THE GEOGRAPHICAL JOURNAL

VOLUME CI

JANUARY TO JUNE

1943

PUBLISHED UNDER THE AUTHORITY OF THE COUNCIL

EDITED BY THE SECRETARY

THE ROYAL GEOGRAPHICAL SOCIETY

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910.5
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v.101 20/28 1943

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The
GEOGRAPHICAL JOURNAL

Vol CI No 1 R.G.S. *January 1943*

ETHIOPIAN HIGHLANDS

W. E. D. ALLEN

Meeting of the Society, 18 January 1943

THIS lecture does not pretend to be a serious study of any geographical aspect of Ethiopia. It is rather a record of impressions gained during a year spent in Ethiopia in various jobs ranging from the care of a park of derelict mules to that of Intelligence Officer to the newly formed Ethiopian Army.

Unluckily I was posted away from Addis Ababa at short notice, and my reference books in Italian and Italian photographs of ethnological interest which I had collected should now be in Nairobi, if they have not been lost. Many of the photographs used as illustrations were taken in the field by Captain Mark Pilkington, the Life Guards, a very gallant officer who distinguished himself in the guerrilla fighting round Lake Tana and who was killed in action in Libya, just two months ago.

With the possible exception of parts of the Shankalla wilderness, which is the Abyssinian extension of the Sudan plain between the western bend of the Blue Nile and the Escarpment, it cannot be said that any large areas of the Ethiopian Empire had remained unvisited by Europeans prior to the Italian War of 1935–36 and the campaign of 1941. I have however come across no account of the remarkable massifs of Dungwur and Belaia which rise out of the Shankalla plain to the east of the Escarpment. On the tableland of Belaia, well within the nominal Italian frontier, an advance base for the supply of the Patriot forces was established in January 1941 and in February the Emperor set up his headquarters there.

These twin mountain masses rise out of the Shankalla plain to an altitude of about 7000 feet above sea-level. They are covered with rich forests and watered by fast-running streams. Dungwur was uninhabited and visited only from time to time by stray bands of Abyssinian hunters. But there are flourishing villages and ancient churches on Belaia. It was a weird experience to reach these strange islands of luxuriating nature after the long camel trek across the burnt-out Shankalla wilderness. From a day's march away we

could see the forests blazing on the flanks of Belaia from the bombs dropped by the Savoias in their unsuccessful attempts to search out the Emperor's camp.

The wooded flanks of the Western Escarpment of the Ethiopian plateau overlook the plains of the Sudan. The top of the Escarpment is 4000–5000 feet above sea-level, and the gap opposite Mambuk village which we climbed is about 2000 feet above the level of the Shankalla plain, which rises steadily in a series of low rocky corrugations all the way from the Dinder river some 100 miles to the west. From the top of the Escarpment the fertile plains of Gojjam stretch for another 100 miles to the canyon of the Blue Nile. There is a fall of about 5000 feet to the great ravine with its subtropical vegetation from the dusty upland round Debra Markos. From the western edge of the Blue Nile Scarp it is a whole day's march down to the river for loaded animals, and more than a day's march up the eastern bank on to the Salale plateau at Shafartak.

The Ethiopian Highland is a series of plateaux separated by deep canyons such as that of the Blue Nile. The eastern edge of the Highland is the western edge of the great African rift. There is a parallel rift from lake Tana along the canyon of the Blue Nile to the Southern Lakes of Ethiopia and it is continued through the East African lake system down to lake Tanganyika. A series of north–south and east–west faults divide up the Ethiopian highland into separated plateaux. The Awash valley, running west–east, and really connecting the north–south rifting with the Red Sea basin, flows in the most notable of these. The different plateaux are sometimes connected by narrow necks of land or panhandles: for instance the neck connecting the plateau of Debra Zebit with that of Debra Tabor is hardly more than 100 yards across with a sheer drop south-west to the ravine of the Bashilo and north to that of the Gash or Takkaze.

These peculiar geographical conditions explain much in Ethiopian history. The great line of the Escarpment, overlooking the Red Sea depression on the east and the Sudan plains to the west, has protected the population of the uplands from penetration by foreign armies until modern times. The only successful conquest of Ethiopia was that of Muhammad Gran, the "left-handed," a Somali chieftain who is reputed to have had an Ethiopian father. The Somali-Arab armies which were really the spearhead of Turkish imperialism on the Red Sea in the great days of the Ottoman Empire in the sixteenth century, penetrated the Ethiopian Highland by the Awash valley in a series of campaigns which lasted for about half a century. In the end the great altitudes and the inclement rainy seasons probably restored their independence to the Ethiopians. In general, it may be said that the Highlanders have never been able to conquer and hold the hot lowlands of the Red Sea and the Arabs and Somalis have never been able to maintain themselves on the upland plateau. Only in the subtropical region of the southern lakes as far as the Dadessa valley and Jimma has there been any important penetration of Islamic influences.

Foreign influences, Semitic and that peculiar early Ethiopian or Eritrean civilization known as Aksumite, have come in from the north over the easier

ANGLO-EGYPTIAN SUDAN
ERITREA
RED SEA
Asmara
Adowa
Aksum
Tigre
Eastern Escarp.
Assab
Assab Road
FRENCH SOMALILAND
Jibuti
Railway
Gondar
7413
Lake Tana
5758
Debra Tabor
Magdala
9190
Dessie
Awash
Blue Nile
Dinder
Atbara
Shankalla
Debra Markos
Fiche
Debra Libanos
Addis Ababa
Condudo
Harar
6352
Somali Escarpment
Western Escarpment
Jiran
13540
Galla
Oromo
Lake Rudolf
1335
KENYA
Scale of Miles
100 0 100 200
First class roads
Heights in feet
36°
40°
44°
16°
12°
8°
4°

Fudi, near Njabara, Gojjam

Phot. L. V. Bentin

Debra Libanos, 1928

grade from the Eritrean plateau. All civilization in Ethiopia has penetrated from north to south along the great dorsal ridge of the Eastern Escarpment, where the so-called Strada Imperiale now runs from Asmara to Addis Ababa.

Along this line have been concentrated the successive Ethiopian capitals with the exception of Gondar, which was chosen far to the north-west as a refuge from the ruinous wars with the Moslems and the Gallas. And along this line, due south from Aksum and Aduwa, were the great centres of the Copto-Ethiopian culture of the Middle Ages, places like Lalibala and the monasteries on lake Haik and the traditional centre of the Coptic Church at Debra Libanos.

From this dorsal ridge of the Eastern Escarpment Ethiopian culture, and it was a very real culture in its heyday, spread westward into Gojjam and southward to the region of the lakes. Luca di Sabelli in his recent 'Storia di Abissinia' has shown that Coptic-Ethiopian missionaries were active as far south as Madagascar and the Mozambique coast.

Ethiopian Coptic culture drew its nurture from the powerful Coptic Church in Cairo, from the Crusading civilization in Palestine, and from the Byzantine Empire. Just as the establishment of the Turks at the exit from the Black Sea brought about the decline of the East Christian cultures in the Caucasus and the Balkans, so the Turkish control of the Nile valley and the Red Sea slowly strangled the Coptic Ethiopian culture of East Africa. The Ethiopian rulers, pressed by the invasions of Muhammad Gran, were well aware of their mortal danger and it is a curious fact that kings in Georgia and Ethiopia appealed to the rising power of Spain in the Western Mediterranean at about the same time. The Portuguese episode in Ethiopia was a delayed response to the appeal made to the Catholic powers.

The extraordinary tenacity of the Ethiopians to the western tradition is a remarkable characteristic of their historical development. The Aksumite kingdom, for all its Semitic appearance, was essentially a projection of Hellenism, and the Aksumite kings remained the traditional allies of the Byzantine Emperors in their struggle with the Persian Sasanids for the control of the Red Sea—an episode which was parallel in time with the conflict between these same two "world powers" for mastery of the Black Sea. The Coptic Church and Christian civilization in East Africa proved more enduring than the once powerful Nestorian Church in Asia, with which it may in some ways be compared. The later Ethiopian Kingdom played the same role in the struggle between Turks and Portuguese for control of the Red Sea and for the trade of the Indian Ocean as the Aksumites had a thousand years earlier in the rivalry between Byzantines and Persians. But they showed the same persistent antagonism to the Roman Church as the East Christians had displayed towards the Crusaders and the Papacy. In the end the Ethiopians expelled the Portuguese from Abyssinia and managed to maintain their own independence against their Moslem neighbours, until in the last decade it was suppressed by a professedly Christian power.

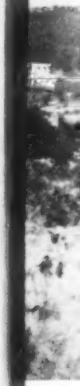
The Ethiopians are a remarkable phenomenon in the East African world and with their tenacity and their undoubted natural intelligence they are destined to have no little influence on the future course of history in that area.

The great weakness of the Ethiopians, their inveterate regionalism, arises, like other aspects of their life and history, from the peculiar conditions of their geography. The four historic Kingdoms of Tigrai and Amhara, Shoa and Gojjam, cover the plateaux divided by the canyons of the Blue Nile and the Takkaze and their lateral rifts. During four months of the year, the season of the Great Rains between July and October, Gojjam is entirely cut off from Shoa and Amhara by the floods of the Blue Nile. Only recently has the construction of the bridge over the Blue Nile at Shafartak, a major engineering undertaking, made continuous contact possible. The violent regionalism of the Gojjam has been a disastrous factor in internal Ethiopian history which will doubtless tend to decline with the modern development of communications.

The Gojjam, scene of the guerrilla campaign of 1941, has been described by Major Cheesman, formerly H.B.M. Consul in Dangila, in several articles in the Society's *Journal*, and in his standard work on the province, 'Lake Tana and the Blue Nile.' Cheesman's work was in fact the basis of knowledge which made practical the organization of the expedition to reinforce the Patriot groups which were in the field against the Italians at the moment when Italy declared war on Britain. His exploration of the gap up the Escarpment, the fruit of an arduous excursion described in his book, enabled the Frontier Battalion of the Sudan Defence Force with their camel convoys of supplies and arms to make a rapid deployment on to the Escarpment.

The least-known part of the Gojjam province is probably the region of the Choké Mountains which rise to the north of Debra Markos. In an effort to hold down this very wild bit of country the Italians had built forts at Mota and other points and a passable dirt road had been constructed linking Debra Markos *via* Mota with Bahrdar—the Italian strong point at the southern tip of Lake Tana. After the capture of Debra Markos in April 1941, it proved necessary to make contact with the small group of Patriots and one company of Sudanese with some British officers and non-commissioned officers who were containing the very considerable Italian force still in the field round the south-east shore of Lake Tana. At Debra Markos we were very short of troops. Further, scarcity of mules made it necessary to try the experiment of taking camels over the pass which runs under the peaks of Choké at an altitude indicated on Italian maps at rather over 13,000 feet. Kit had to be limited to one ground-sheet and one blanket each for all ranks and the plain-bred Sudanese, many of whom were already lame with jiggers, suffered from cold and mountain-sickness particularly in the hail blizzard which struck the force on the bare ridge of the Choké Pass. Nevertheless this one company of Sudanese covered the 70 odd miles in just under three days, and Colonel Boustead bluffed the Italian battalion in Mota into surrender within forty-eight hours of opening fire with his solitary mortar.

I was following along in the rear with the camel *hamlia* and on reaching base camp in front of Mota was met with orders to about turn and take the animals back to Debra Markos. I thus crossed the Choké Mountains twice in one week. With amateur medical and veterinary duties and a driving mist at the higher altitudes alternating with rain, sleet, and hail, I had little oppor-



amp a

Gojjam

amp at Matakal, Gojjam, complete air cover for standing camp along wooded wady

The Emperor and Colonel Wingate at Debra Markos, April 1941

Household Cavalry

Patriots entering Debra Tabor, July 1941

tunity for geographical observation. The vegetation was really fantastic. Along the higher slopes of Choké giant red-hot pokers stretched for miles. Rather lower the ground was carpeted with violets and beautiful mosses. There were bushes of heather growing higher than the height of a man, and a variety of lichens. In the silence of the mountains in the early morning mists, the atmosphere strangely recalled parts of Ireland or the North Cornish coast. It was a fitting background for the magical beliefs and the immaterial psyche of the Ethiopians, which the more matter-of-fact European finds difficult to comprehend.

It was interesting to note that at about 11,000 feet there appeared to be a sort of fly-line. The flies, which are a constant pest round Debra Markos at 9000 feet, entirely disappeared and only appeared again on the incline down to Mota and the Blue Nile.

There were only two or three villages along the track, which of course is a new one, but collections of huts were fairly frequent over the lower slopes, particularly on the incline to the Blue Nile. Cultivation was maintained up to about 12,000 feet. I gather from a book on the Heights of Simen (to the north-east of the Gondar area) that there is a flourishing farming life at the same altitudes in that region. Grazing was magnificent and live stock were notably well conditioned by comparison with the animals of the Debra Markos district.

Colonel Boustead's force continued from Mota to Bahrdar at the southern tip of Lake Tana, where they made contact with the small mixed group of Abyssinians, Sudanese, and British under Major Simmonds. The march was continued in the direction of Debra Tabor, the former capital of Ras Gugsa Wolye, which the Italians had made into a major defended locality—the base for a line of dependent forts strung out along the road which linked Dessie on the Strada Imperiale with Gondar. Conditions remained difficult at an altitude of over 9000 feet in the first weeks of the so-called Little Rains which break in May.

Meanwhile a force of one company of Sudanese and one company of a newly formed Ethiopian battalion with a few British officers and N.C.Os. under Colonel Wingate, O/C Gojjam Force, was following the retreating garrison of Debra Markos. About eight thousand of these had survived the operations in Gojjam and they had retired across the Blue Nile, blowing up the Shafartak bridge, and were making for Magdala and Debra Tabor across the mountains which lie to the east of the Blue Nile and to the north of the main road from Debra Markos to Addis Ababa. Harassing operations were kept up throughout the month of May and, when two thousand of Ras Kassa's Shoans joined in, Colonel Wingate was strong enough to bring the enemy to a general action. The affair was decided when Bimbashi Thesiger, by a remarkable 50-mile march in twenty-four hours over hostile country, seized a panhandle connecting two plateaux along which the Italians were intending to retreat. As a result the remnants of the fifty-one enemy battalions stationed in the Gojjam surrendered at Agibar, about four months after the Emperor had set up his original headquarters at Belaia.

All this country on the marches of the ancient kingdoms of Shoa and Amhara was relatively little known before the Italian occupation. I refer to

the triangle of mountains bounded on the north by the Dessie–Debra Tabor road; on the west by the canyon of the Blue Nile; on the east by the Strada Imperiale; and on the south by the Debra Markos–Addis Ababa road. Here Ras Kassa's Shoan fief of Salale adjoins his territories in Amhara Saint. Salale is a great grassy upland, in May already swept by rain storms for six or eight hours a day. The road to Addis Ababa passes through Ras Kassa's capital of Fiche, which has the usual character of Abyssinian country towns: an agglomeration of huts standing in rather dreary eucalyptus groves and dominated by a fort and the European villa of the Ras. Salale has the reputation of being the best horse-raising country in Abyssinia.

Fiche has a certain strategic importance in the feudal politics of Abyssinia since it lies across the main line of communication between the capital and Gojjam; and in the period of *coup d'états* in the '20s the lord of Salale was always in the position to intervene suddenly in the capital only 70 miles away.

Ras Kassa has always maintained his loyalty to the Makonnen house. He is a magnificent old veteran of war and politics, rugged and erect in spite of his advanced years. Ras Kassa's two elder sons, who had come in to discuss a truce with the Italians some months after the fall of Addis Ababa in 1936, were executed under circumstances of abominable treachery. Nevertheless the old Ras made himself responsible for the escort of the Agibar prisoners over about 150 miles of country without a single one of them coming to any harm.

I was fortunate in June and July in spending some time in Dessie and in making my way up to the Debra Tabor district where, in mid-July, the Italian garrison of some six thousand men surrendered. Dessie, which means "my joy" in Amharic, is an ideal base from which to study the incomparably beautiful country round. The former capital of Ras Michael, the Moslem father of the ex-Emperor Lij Iyasu, Dessie became the northern military headquarters of the Empire during the years preceding the Italian conquest. Dessie was favourably situated in relation to the Italian frontier in southern Eritrea, but it owed its strategic importance to the inner political situation. To the east and north-east along the line of the Eastern Escarpment overlooking the Danakil Depression and the Red Sea basin is the country of the turbulent Wagara Gallas who were, and who remain, a recurrent threat to internal security. The Wagara clans in fact lie athwart the main south–north route from Addis Ababa to Aduwa and the new and hardly less important motor road down the Escarpment and across the Danakil desert to Assab. During the years 1929–31, each autumn after the Great Rains, the Emperor had not less than thirty thousand men in the field engaged in more or less fruitless marches and counter-marches over the highlands of the Wagara country.

Scarcely less formidable were the great conservative lords of the north: Ras Gugsa of Makale, who afterwards went over to the Italians; Ras Seyum of Tigrai, ruling all the country between the upper Takkaze and the Eritrean border; and Ras Gugsa Wolye of Debra Tabor, an ex-husband of the Empress Zawditu, who himself had pretensions to the throne and the support of the powerful centre of the Coptic priesthood in Aduwa.

The last great feudal campaign in Ethiopia took place in 1931. The Im-

Camels flattening landing ground at Matakal

Captain Pilkington's Wallos on parade, October 1941

Men of Gaint

Gojjam notable and boy learning trade of war by carrying weapons

Gojjamis, Matakal

Mule and Hotchkiss gun crossing Blue Nile

Gojjam notable and boy learning trade of war by carrying weapons

Gojjamis, Matakal

Mule and Hotchkiss gun crossing Blue Nile

perial Army, recruited largely from the non-Amharic southern region of Galla-Sidamo, advanced from Dessie and met the feudal levies of the pretender on the plateau of Debra Zebit. A great head-on encounter of over thirty thousand riflemen and spearmen took place along a front extending over 10 km. A lucky reconnaissance by the Emperor's two French Potez planes was probably the decisive episode in the battle. Somewhere in the mêlée Ras Gugsa Wolye was dragged from his mule and hacked to pieces. This last epic contest of feudal lords recalls one of the battles of the Wars of the Roses.

Dessie itself has something of the character of an alpine *Kurort*, and the Italians intended to develop it as such. When I was there the fairly numerous Italian colony was being removed to Asmara, and it was obvious that the town was gradually reverting to the untidy agglomeration of huts and shanties which is all the easy-going Ethiopian countryman requires in a town.

The surrounding grassy *alms* are the finest stock-raising country in Africa. Between the surrounding peaks of the uplands I have ridden for 3 or 4 miles over turf as flat as a race-course. I had the pleasant task of running a reception camp for surrendered Italian mules and ponies, and I was free to spend a good deal of time in the saddle under fresh wind-swept skies which recalled an English June.

The road from Dessie to Debra Tabor descends and ascends the canyon of the Bashilo and crosses the plateau of Debra Zebit. Magdala, the fortress capital of the Emperor Theodore, lies to the south-west, and the route from the Bashilo to Debra Zebit is the reverse of that taken by Napier in 1868, when he made his remarkable march up from the Red Sea. After Debra Zebit the route crosses the panhandle which forms the watershed between the Bashilo flowing to the Blue Nile and the northward-flowing Takkaze. Farther on towards Debra Tabor, with the incline down to the Lake Tana basin, the vegetation becomes richer. Snipe abound and are so tame that they could almost be killed with a stick.

In the mountains to the south-east of Debra Tabor is the curious anarchic community known as the Republic of Gaint, whose people claim to recognize no authority. The late Captain Pilkington and Captain McLean, who were organizing the tribes south and east of Lake Tana, managed to establish very friendly contact with the Gaint people.

Many hard things have been said about the Abyssinians. Some people have found it difficult to get on with them; but it is notable that foreigners who have spent some time with them are generally happy in their company. Under the name of Abyssinian, or of Ethiopian which they themselves prefer, are included people as varied as the Amhara and the Galla; the Hararene and the Tigraian; the Shoan and the Agau. It is worth giving an individual impression of these different groups.

The Amhara racial type includes both the Amhara and the Shoan, and, to a great extent also, the Gojjami. The Amhara are the dominant racial stock of the central Ethiopian Highland rather than the ruling caste of Ethiopia. There are plenty of poor Amhara villagers. The Amhara are described as of Hamitic origin; but from the earliest times there has been a strong infusion

of Semitic blood. There is rather more of the Semite in the Tigraian and the Amhara than in the Shoan and the Gojjami. The Tigraian language has come much under Semitic influences, and there are many common elements in Amharic and Arabic: not only in vocabulary but also in syntax. The Amharic alphabet, with over two hundred and fifty odd letters, is a very exact instrument for rendering the language. It is derived from one of the old Semitic alphabets of the Middle East. Amharic has many explosive sounds which often give the impression that the speaker is excited and indignant when he is not, and with the impatient foreigner this can sometimes lead to misunderstandings.

Physically the Amhara is slight and light-boned with regular rather delicate features. He has quick almost bird-like movements and his manner gives the impression which I cannot describe better than by the word fluttering. The hair and beard has the characteristic Hamitic corrugation. Men often go iron grey in middle life, but seldom white. The hair of the women is artificially frizzed and dressed with butter-grease to fix it. This gives them a gollywog appearance.

The Amhara have the most charming manners and they like to stand on ceremony. They have a complicated social hierarchy and always dismount as a salutation to superior persons. They will also touch with their lips the hands or knees of superiors. At the same time they have the naturally easy and democratic outlook of the East; and the poorest man will expect attention and the right of access to a Ras, or even to the Emperor. The approaches to the palace at Addis Ababa were lined with sometimes quite humble people, farmers and soldiers, waiting an opportunity to secure the Emperor's decision on some matter.

To respond to his ceremonial manners is an easy way to the heart of the Ethiopian. At the same time they are quick to take offence and their shrill voices are soon raised in anger.

The frail physique and mercurial temperament of the Amhara is doubtless the result of the rarefied alpine atmosphere and of a diet predominantly of grain paste seasoned with strong condiments—which they vary from time to time with orgies on practically raw meat. But fragile as they look, the Amhara are, nevertheless, extremely hardy. They will sleep out in all weathers with nothing to cover them but their thin cotton robes; they are remarkable runners and can maintain a jog trot all day; they are like goats on the hillside.

I believe the Amhara to be naturally intelligent with a brain which only awaits proper training and development. During the five years of the Italian occupation, no small proportion of the population of Addis Ababa acquired a fair knowledge of Italian. I knew a boy of twenty who, in addition to excellent English, was proficient in Arabic, Somali, Galla, and Swahili. He came, of course, from Harar, which is a great metropolis for peoples from all round the Red Sea. Abyssinian recruits acquired a knowledge of Morse with remarkable facility.

When it is possible to overcome the linguistic difficulty and get on friendly terms with Ethiopians, they prove delightful companions, naturally kind, generous and friendly, with a charming sense of humour and often a nice

irony. They are a happy people with a deep love of the natural world around them.

The Tigraians of the north are different. There is something hard and seasoned about a Tigraian which makes him easily distinguishable from an Amhara. The Tigraian is rather the yeoman type. The sharper drier climate of the borders of Eritrea gives him something which recalls a little the ruggedness and shrewdness of the Castilian. There is a determined look in the Tigraian eye which contrasts with the wild and passionate glance of the Amhara. The Amhara and the Tigraians, with the kin Hadendoa of Eritrea, represent varying degrees of mixing of the Hamitic and Semitic stocks.

The Agau, on the other hand, are said to be the descendants of the pure Hamitic stock—believed to be aboriginal to the Ethiopian Highland. They may well be "the blameless Ethiopians" of the ancients. The judaised mountaineers of the Simen mountains speak an Agau dialect. There are islands of Agau in Gojjam, particularly along the line of the Western Escarpment. To the best of my knowledge these people together with the neighbouring negroid Gumuz of the Shankalla wilderness, another very primitive stock, have never been seriously studied. The language and customs of the Agau must be of considerable interest from the aspect of comparative linguistics and folklore.

The Agau villages through which we passed between the Escarpment and Njabara were miserably poor in the midst of an often fertile countryside: goitre, elephantiasis, and leprosy were rife. The people have long been a serf population under Amhara overlords; but in the tenth century they threw up the brilliant Zagwe dynasty which ruled Ethiopia for more than three centuries. The Zagwe episode in Ethiopian history seems to have represented some reaction of the older people of the Highland against the Amhara elements intruding from the north.

It may be of interest to refer here, in connection with the Agau, to the so-called Falashas or Black Jews. The main centre of the Falashas, who are Agau-speaking, has been in the Simen Mountains, but during the last century they have become scattered about all the north of the Ethiopian Highland. The religious practises of the Falashas are stated by people who have studied them to be those of the Jewish faith before the Babylonian captivity. The Falashas may therefore represent a remnant of a very old Jewish dispersion, or at least an early penetration of Jewish influences into the Ethiopian Highland.

Again it has been pointed out by Luca di Sabelli, Conte Rossini, and others that the ritual of the Coptic Church in Ethiopia retains a number of practises which were a part of the Jewish religion before the Captivity.[1] These cultural remnants from the past have a bearing on the tenacious tradition in Ethiopia that the Royal House is descended from Menelik (=ibn el-Hakim="son of the doctor" or "the sage") who was reputed to be a natural son of Solomon and Balkis (Arab) or Makeda (Ethiopian) Queen of Sheba. If this legend is rationalized it may be postulated that folk traditions of early Jewish associations were given literary form, in the early centuries of the Christian era, by Coptic monks familiar with Old Testament history.

[1] Luca di Sabelli, 'Storia d'Abissinia,' vol. 1.

In terms of historical probability it should be emphasized that at many periods during the millennium before the Christian era Jewish influences waxed strong in the interior of Arabia and along the eastern coast of the Red Sea. There was regular intercourse between the two coasts of the Red Sea and the Aksumite kingdom on the borders of Eritrea, and the Ethiopian Highland emerged as a city-state similar in character to the city-states along the Arabian coast, and in culture more than half Semitic.

To the north of the Syrian area the tradition of descent from the House of Solomon grew up in the royal houses of Armenia and Georgia, after the conversion of those two countries to the Christian faith. At the same time there were very ancient colonies of Jews in Georgia and Dagistan which may well have dated back to the period of the Babylonian conquest of Israel. A later spread of Jewish influences and even of Jewish elements which may be checked historically from the works of Arab geographers took place in the ninth century A.D. among the Khazars—a Turki people who had founded a state in the northern Caucasus and along the Volga.

A similar spread of Jewish influences to the Ethiopian Highland in an earlier epoch is historically no more improbable and, in terms of geography, would have been a much easier process. The fact that the present-day Falashas are Agau-speaking indicates that the Jewish infiltration, if it took place, was at a period when Agau was generally spoken on the Ethiopian Highland.

The Gallas.—The origin of the Gallas is another of the curious mysteries of African history and the Gallas themselves remain the most significant problem of the inner politics of Ethiopia. They first appeared in Ethiopia towards the end of the sixteenth century. The country had been depopulated by the long Somali wars and by the following conflict between Catholic and Coptic Orthodox arising out of the Portuguese intervention.

During the next two centuries the Gallas swarmed over all the countryside of Ethiopia. They settled in the region of the southern lakes, which at an earlier date had been colonized by the Ethiopian Kings. They reached the Escarpment overlooking the Awash valley and the neighbourhood of Harar on the borders of the Somali country. Like the Amhara they seemed to prefer the Highland and they spread over Shoa up to the canyon of the Blue Nile and north along the ridge of the Eastern Escarpment into Amhara.

In Shoa, the Imperial province of Ethiopia, people speaking Galla represent about half the population; and over Ethiopia as a whole they probably outnumber all the other racial groups.

In the eighteenth century Galla troops proved the decisive factor in the dynastic wars which covered the period of the final disintegration of the mediaeval Empire. Galla chieftains lorded it at the decadent court of Gondar; they made and unmade Emperors and married their daughters to them. But coming as invaders, the Gallas settled as peasants. In contrast with the indolent Amhara squireens, the Gallas are industrious farmers and labourers.

At the same time the Gallas had, and have, little political consciousness or racial coherence. When, in the course of the nineteenth century, Ethiopian

imperial power revived, Emperors like Theodore and, later, Menelik, re-established Amhara rule first over the central highland and later over all the Galla lands of the south. The most formidable resistance encountered by Menelik was from the Moslem Galla Sultan of Jimma. From time to time certain Galla districts resented the corrupt or vicious government of individual Amhara officials and revolted; but these revolts were the common phenomenon of a feudal state of society rather than the beginnings of a conscious Galla movement against an alien Amhara rule. In fact in the Galla countries of the south the rule of the Amhara central government has proved more stable than in the north where it had to meet the challenge of powerful Amhara lords. During the dangerous revolt of Ras Gugsa Wolye it was probably the Galla contingents which saved the throne for Haile Selassie. During the campaign of 1941 thousands of Galla guerrillas took the field against the Italians, while the northern leaders, the great Amhara aristocrats, were inclined to wait on the winner.

Gallas are everywhere in Ethiopia and there are probably few Amhara nobles who have not a strong tinge of Galla blood in their veins. Most Amhara have some knowledge of Galla (although many will not own to it), and Galla is popularly supposed to be the "love language" of Ethiopia.

I had little opportunity for investigating the subject, but I do not believe that all Galla-speaking tribes are racially Galla. In the belt of savannah country between the Mussolini Pass and Dessie I met the two sons of a Wallo Galla headman who were a pair of the most beautiful human beings I have ever seen. Copper-skinned and lithe, clad in panther pelts and leaning on their spears, they seemed apparitions out of the Bronze Age. These boys were of pure Hamitic type, rather resembling some of the fine-featured Shluh of the Moroccan Atlas. Yet, in Harar, where I had to disband a battalion of Galla Patriots who had come in from the south, I found stocky square-headed men with heavy jowls, with a fair proportion of negroid types. Incidentally they were reported to show excellent form as soldiers. They were mostly Borana and other southern Gallas.

The variety of physical types among the Gallas adds to the mystery of their origin before the sixteenth century. Some tribes have the tradition of having arrived on the east coast of Africa from over the sea, and one theory postulates the coming of the Galla from Madagascar and attempts to correlate their migration with the intrusion of Malay elements into that island. At present the origin of the Gallas remains one of the most interesting problems of African history.

Harar itself has, since mediaeval times, enjoyed the situation of a city-state. The emirate of Harar was brought within the Ethiopian Empire only by Ras Makonnen, the father of the present Emperor. It has since remained a favourite city of the Imperial family and a stronghold of their interest. On the edge of the Somali and the Galla country and commanding the way down over the lip of the Southern Escarpment into the Awash valley Harar is a meeting place for all the tribes of Ethiopia and the Arabian coast. The old walled city with its narrow crowded streets and occasional mosques and *turbês* has all the characteristics of an Arabian town, as contrasted with the open settlements of huts, gardens, and plantations which pass for towns in

Ethiopia. There is a special Hararene language of which an Italian society has published texts. It appears to be a corrupt mixture of Amharic and Arabic in the Amharic script. The women of Harar, in whom Somali and Galla blood predominates, are noted for their beauty. In contrast with the uniform white cotton skirts and innumerable petticoats and draperies of the frizzed Amhara ladies, the Hararenes wear a variety of bright colours and, although Moslem, they go with their faces unveiled and shoulders and bosoms exposed. Hair is worn flat in stylized curls. Their skins are often of a beautiful rose-bronze hue.

Harar is situated about 6000 feet above sea-level and its climate is one of the most equable in the world. The fertile red soil provides an abundance of the fruits of the earth and the gardens which slope down round the old walls of the city offer a variety of colour. Many pleasant hours can be spent wandering among them and talking to the cheerful friendly people. Harar is famous for its delicious coffee; and the donkeys of the district of Mount Condudo, which rises to 9000 feet some 20 miles to the east of Harar, are reputed to be the finest in Ethiopia. The jackasses of Condudo are much sought after for the procreation of mules, and the whole life of the Ethiopian Highland still depends on the mule.

The Ethiopian Highland lies in close proximity to two of the oldest routes along which have passed the commerce and the changing cultures of men: the Red Sea and the Nile. Yet the Ethiopian Highland and its peoples have remained remote. The same conditions of history apply to the Riffian Atlas overlooking the Straits into the Mediterranean and to the great Caucasian massif which flanks the ways round the Black Sea and across the Caspian.

The presence of varied racial elements in mountain areas has generally been explained as the remnants of former peoples who have been driven up into the hills as fugitives. This may be in part true. Yet I am inclined to believe that the mountains have been rather the human reservoirs from which successive floods of men have poured down, like the spring waters, into the neighbouring lowlands. There are many historical examples of this process. In Moorish history successive dynasties were recruited from the mountain Berbers and it was the Berbers who provided the man-power for the Moslem conquest of Spain. The function of the Albanians in repopulating a devastated Greece was remarked by the historian Finlay; and they have for centuries contributed numerous and warlike elements to the populations of the Near East. The same role was played by Caucasian mountaineers in both the Byzantine and Ottoman Empires, in Egypt, and in Persia. Mountain peoples generally breed in excess of the capacity of the terrain to support their offspring.

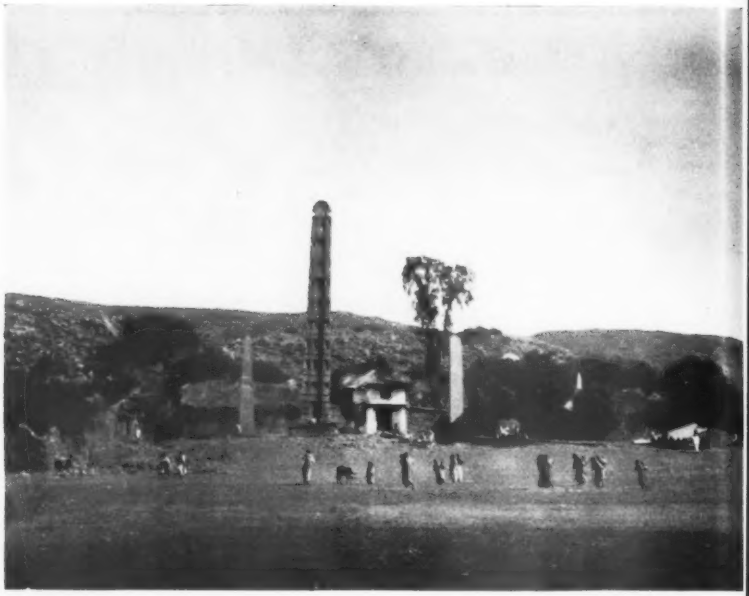
I submit, then, that the Ethiopian Highlands represented just such a reservoir of primitive human material—a reservoir which must have made an important contribution, in prehistoric times, to the peopling of the Nile basin. In fact the Ethiopian Highland and the Moroccan Atlas, with the intervening massifs which rise out of the Sahara, like Jebel Adrar, Tibesti, and Darfur, may well have been the primitive homeland of the Hamitic-

Awash river, Northern Aussa

Phot. W. Thesiger

Harar

Phot. F. D. Corfield



Phot. R. E. Cheesman

Aksum, monoliths

Phot. R. E. Cheesman

Aksum, King's coronation throne and four pillars, Abunas' throne in background

speaking peoples, who have contributed such an important element to the populations of the Mediterranean basin.[1]

I believe that the early civilized world of the valleys: Egypt, Mesopotamia, and the Indus, which has been revealed by the researches and explorations of the last century had its background in the great ranges from which its peoples came. Professor Toynbee has pointed out that the regions of the Nile and the Mesopotamian valleys must have been areas of unhealthy swamp and wilderness when men first settled there.[2] Such terrain would not produce the conditions necessary to stimulate the multiplication of an indigenous stock. A terrain of this type would rather need clearing and developing by immigrants forced to find their living there after having been driven down from mountain areas by the pressure of increased numbers on food, which we have seen is a common characteristic of mountain economy. But just as the Highland migrant working in the field of American industrialism soon acquires new techniques and develops a higher standard of material culture than his brother who remains a crofter in Scotland, so the colonists of the Nile and Mesopotamian valleys far outpaced in material culture the inhabitants of the remote highlands of Ethiopia or of the Zagros and the Taurus.

There is one last point: the eighteenth-century prejudice against mountains, which influence still remains, tended to an exaggeration of the difficulties of mountain travel in primitive times. Yet the higher ridges of mountain chains often are the easiest lines of movement for men on foot. It makes possible the avoidance of forested valleys and ravines blocked by undergrowth and full of fevers. In England even our earliest forebears kept to the Downlands and trudged along the ridges to keep clear of the thick undergrowth and swamps of the low ground. And the so-called Alpine peoples kept to the mountain belt as they penetrated westward into Europe from the Highlands of Asia Minor through the Balkans to the Alps and the Pyrenees.

In this connection it is possible to appreciate the essential importance of Aksum as an early cultural centre. Aksum is at the northern head of the route along the great Eastern Escarpment which leads into the heart of the Ethiopian Highland; at the same time Aksum is within easy reach of the Red Sea and the affluents which lead down to the Nile valley. There is a theory that the monoliths at Aksum are in fact the remains of a great Megalithic centre; the historic Aksumites merely made their own sculptural additions to the stone monuments which they already found in situ.[3] If we accept this theory we can see Aksum as a great centre of early megalithic culture having its connections with the reputed megalithic remains noted by recent Italian

[1] Abbé Morié, 'Histoire de l'Ethiopie,' vol. 1. Ethiopia was a term applied by ancient writers loosely and varyingly to all the northern half of Africa between the Atlantic and the Red Sea, and the term was even extended to Caucasian Colchis and to India. In fact mythical Ethiopia covered all that width of Africa and Asia where the Neolithic cultures first appeared. In classical times the name Ethiopia was applied to Nubia and the Sudan and it was only in post-Christian times that it was limited to the Highland area of modern Ethiopia.

[2] A. Toynbee, 'The study of history,' vols. 1/2.

[3] Sir E. H. Wallis Budge, chapter on Aksum in vol. II 'History of Ethiopia.'

travellers in the region of the southern lakes.[1] Other and earlier cultures may well have percolated into the Highland by the same routes along the ridges which are established for the mediaeval Copto-Ethiopian culture.

I am afraid I have put before the Society some rather hazardous lines of inquiry, with implications which necessarily impose a great deal of comparative study before they can be established or disproved. My excuse in these days when no one has the leisure to pursue exacting studies is that it is worth putting on record lines of inquiry which some of us may be able to turn to at a later date.

All photographs, unless acknowledged, were taken by the late Captain Mark Pilkington.

DISCUSSION

Before the paper the PRESIDENT (the Rt. Hon. Sir GEORGE CLERK) said: Captain Allen has been well known to us in the past as an authority on Georgia and as the author of an excellent history of the Ukraine. Military duty took him to Ethiopia for the operations which restored the Emperor Haile Selassie to his throne and capital—operations in which others of our Fellows, particularly Colonel Orde Wingate, Major Hugh Boustead, and Mr. Wilfred Thesiger, took a prominent part. Some day when the war is over I hope that the story of the Abyssinian campaign will come out, because not only is it in many ways a fantastic story, but it makes a very fine chapter in our annals.

It has been a little difficult for Captain Allen to prepare his paper for this evening, first of all because nearly all his photographs were left behind in Africa, and secondly, because his military duties have given him very little time to get his paper into shape. We look forward to hearing the impressions which the country and people of the Ethiopian Highlands have made upon him in the course of his military duties.

Captain Allen then read the paper printed above

The PRESIDENT: The lecture this evening has stirred memories of forty years ago. The lecturer talked about those miles of red-hot pokers. I have always held that if you give Nature a chance she is the best gardener in the world. I came once over a plateau in Abyssinia, a bit of waste country where no white man had ever been before, and there I found a great sheet of red-hot pokers and rosemary: the masses of orange-scarlet flowers backed by the grey-mauve of the rosemary were wonderfully beautiful. It finished in a sort of marsh in which there were immense stretches of white and scarlet arum lilies, inconceivably spectacular.

The lecturer has described the good manners and charm of the Shoan Abyssinians, but it is true that they are very quick to take offence as well as to show affection; they are very volatile. What he said about the Tigraians was also true; they are the tough northerners, more dependable, but not so easy to get on with. I will give you an instance of the funny though rather charming ways of the Abyssinians. Forty years ago I was on a certain expedition with a so-called Abyssinian army: two thousand scallywags, with two thousand small boys to carry their rifles, and two thousand unfortunate second wives to carry their food. We descended the escarpment to the west, and came into populated country. The Abyssinian soldiers were living on the country, and here they started to be extremely tiresome. I had to chase them off the inhabitants and

[1] See 'Africa Orientale,' Italiana Guida, published by Touring Club Italiana, 1939.

their cattle, and I was not popular with them. I had forty or fifty of my own servants, and I always made one of these come along with me with a spare mule and a rifle in case I saw something to shoot on my daily expeditions. It was not until the expedition was over and I was back again in Addis Ababa that it came out quite casually that every night over a camp fire the "victim"—that is to say, the particular servant who was to go with me next day—was compelled solemnly to make his will and divide his miserable property, with the rest of the servants as witnesses, because they were convinced that it was only a question of time before I was slaughtered by the Abyssinian army, together with the servant who would be with me. These people had no particular cause to love me, but they never complained and never refused to go.

I remember the Emperor Haile Selassie when he was a small boy in the entourage of Menelik. He and his cousin Lej Iyasu, the emperor whom in due course he deposed, were there with other small boys, and they used to wear those black satin cloaks, such as you have seen in the Emperor's portraits, with little gold or brass buttons, a very fine white scarf showing, and beautifully white cotton trousers. In their efforts to please the Emperor Menelik the Europeans used to send all sorts of consignments of our goods. One consignment which came along was a whole case of gibus or opera hats. Some enterprising man had made these of a kind of patent leather. The ordinary opera hats of silk were rather dull in appearance, but the new patent leather hats did not catch the fashion in Paris or London, and so they were shipped to Abyssinia. I gave them to Menelik, whereupon he made all these small boys in the court wear these shiny opera hats. In the result, although many would think they looked ridiculous, they appeared to me extraordinarily like the small boys of my own school so far as headgear was concerned, and I thought they suited them perfectly well.

The Abyssinians were beautifully mannered, they were very receptive, and, as exemplified by their present Emperor, many of them have all the best instincts of civilization in them. Helped as they have been by the very remarkable individuals whom Captain Allen has mentioned: Boustead, Pilkington, Thesiger, Sandford, and others, they have done great things for their country, and will do yet more; and that is one of the good results that has come out of this war.

In your name I wish to thank our lecturer of this evening for his very delightful lecture.

THE SCOTT REPORT

DR. L. DUDLEY STAMP

Meeting of the Society, 7 December 1942

IN October 1941 Lord Reith, at that time Minister of Works and Buildings, in consultation with Mr. R. S. Hudson, the Minister of Agriculture, appointed a committee of fourteen members with Lord Justice Scott as Chairman "to consider the conditions which should govern building and other constructional development in country areas." The work of the Committee was thus complementary to, and in many ways a continuation of, that of the Royal Commission on the Geographical Distribution of the Industrial Population (the Barlow Commission). At the same time the financial aspects of planning problems were being considered by the Expert Committee on Compensation and Betterment (the Uthwatt Committee) which issued its final report a month after the Scott Committee in September 1942. Thus the Barlow, Scott, and Uthwatt Reports form a triad covering most aspects of physical planning and reconstruction in this country.

The Scott Committee sat regularly for two days a week from October 1941 to July 1942 and examined a mass of written evidence and a large number of oral witnesses. One member died tragically in a black-out accident in January 1942 and one member was compelled to resign owing to pressure of other work. Of the remaining twelve, despite an amazing difference in point of view and natural background, no less than eleven signed the majority report. To what has been called a "blue-print" for a future Britain are thus appended the signatures of a Lord Justice of Appeal as Chairman, a University geographical don as Vice-Chairman, a farmer, a land-owning peer, an agricultural labourer's representative, a woman County Councillor, the head of the Women's Land Army, a leading manufacturer, a leading wholesaler, a well-known surveyor, and a traffic expert. The only dissentient note came from a Professor of Economics trained in the *laissez-faire* school. Incidentally it will be noted that the minority report misrepresents the views expressed in the majority report, yet the latter makes no attempt to answer the points raised in the minority report. The explanation is simple: the author of the minority report did not circulate his draft: the majority saw it for the first time in common with the members of the public in the published whole.

It must be a source of gratification to the Fellows of the Royal Geographical Society to note how firmly the Scott Report is based on geographical principles which have been argued before the Society, especially in the past few years.

In the firm realization that (*a*) any planning must start from the present position, which is itself the result of the interaction of geographical, historical, and economic factors; and that (*b*) those factors which have exerted such strong influence in the past must continue to do so in varying degree in the future, the first part of the Report, forty-four pages, is devoted to a consideration of the present position. Many general principles are there clearly brought out. One is that the countryside of Britain is in very large degree man-made and that the farmers, foresters, and landowners are the nation's

landscape gardeners. If their hand were removed the country would rapidly become first a tangle of brambles or scrub, and later of woods. The second is that Britain is exceptionally fortunate in the great diversity of physical environment in a small space and that successful planning consists in finding the right uses for each type of what is a major national asset—the land. Its area is, apart from small extensions possible through reclamation, fixed, and is less than one acre per head of population in England and Wales. The third is that in its favoured parts Britain has soils and climatic conditions second to none in temperate latitudes so that there are no inherent obstacles to a most intensive use of the good lands. The fourth is that the varied types of farming —seventeen are mentioned—have evolved naturally in response to the varied physical environments yet are at the same time so closely interconnected that the prosperity of one type of agriculture is inseparable from that of the whole. In the fifth place the siting of farms, villages, and towns was determined originally by natural factors such as the availability of a good water supply or a nodality on natural route ways. The form of the settlement was closely related to its function, for example closely grouped around a central green for defensive reasons, and it is only at a later stage that there has been a formless sprawl into the surrounding country or "ribboning" of the approach roads. Contrary to popular belief large-scale planning is by no means new—it has simply been forgotten in the past century. The Romans planned their lay-out of roads and cities on a truly national scale; the eighteenth-century town planners planned and developed their Bath or Brighton or Regent Street just as their contemporaries, the great land-owners, planned the lay-out of their magnificent parks in relation to their mansions on the one hand and the good farm lands (which on the whole they avoided) on the other. The prostitution of urban planning to material ends was a by-product of Victorian commercialism; the spoliation of the countryside by a "pepper-pot" sprinkling of bungalows and incongruous town villas came later as the result of the final replacement of feudalism by individualism. Democracy in England has yet to learn how and what to plan. In the sixth place the Report recognizes the population movements which were stressed in the evidence of the Royal Geographical Society and the Barlow Commission—the continued drift of people from the country, not entirely to urban areas as such, but to the central belt of England stretching from South Lancashire on the one hand to Greater London and the south coast on the other. By her masterly analysis of the trend Professor E. G. R. Taylor has made famous, or infamous, the central coffin-shaped area into which both industry and people were concentrating—with the resultant creation not only of a depressed countryside but also of depressed urban areas in all regions away from this central belt. With the depression of agriculture the power of the urban purse became paramount: land could be easily purchased for "development" irrespective of its agricultural quality or value. What we obtain easily we value lightly and use wastefully. Hence far larger areas of land were acquired than were immediately needed, and round every town could be found partly developed building estates with hundreds of acres of unsightly derelict "plots" between the completed sections.

The Town and Country Planning Act of 1932 was conceived from an

urban angle. Agriculture was excluded, and agricultural land was afforded no protection as such. The later introduction of a "rural zone" sought primarily to preserve the amenities of the countryside for the urban dweller. Further, planning was essentially local; it was permissive and not compulsory, so that any small local authority could refuse to cooperate; each planning authority proceeded automatically to envisage an expansion of activities and population (and so of rateable value and spending power). As a result planning schemes formulated up to 1939—not by any means covering the whole country—allowed, when their totals were added together, for a population of over three hundred million.

In framing its recommendations which occupy Part II (thirty-six pages) of the Report, the Scott Committee started with certain assumptions but notably that national planning is essential and that the Government would implement its promise to set up a strong and effective Central Planning Authority. Other assumptions the Committee was instructed to make by its Terms of Reference, since its recommendations were to be consistent "with the maintenance of agriculture . . . the well-being of rural communities and the preservation of rural amenities."

The numerous recommendations, some of them of major importance, others dealing with points of detail, are arranged in five chapters behind each of which is a great guiding principle. Behind the first (Chapter VII) is the recognition that human beings are not all cast in the same mould: that the goals of human ambition may be vastly different. Some like a country life, others would not exchange their urban dwelling for the most attractive country cottage in the world. The principle should be to allow the utmost freedom of choice by so equalizing standards of town and country life that the would-be countryman is not under permanent disadvantage in terms of economic, educational, and social opportunities and living conditions. No one should be forced to live in the country by taking and artificially nourishing industry there: no one should be compelled to live in a town in order to secure a home with electric light, water, and reasonable accommodation. Hence the many recommendations which refer to an overdue improvement of rural housing and village life.

Behind the second (Chapter VIII) "The Preservation of the Countryside," is the recognition of the innate love of our native land and that the countryside is the heritage of the whole nation—indeed, also of the Dominions and the English-speaking world. Hence the recommendations for sympathetically controlled access—for footpaths, national parks, nature reserves, the coast—camp sites, and suitable accommodation.

Behind the third (Chapter IX) "Industry in Country Areas" is the recognition that Britain is the most urban country in the world, as well as the most highly industrialized, and that the prosperity of Britain has been built up on the progress of its manufacturing industries and its export trade. The Barlow Commission recommended the dispersal of industry: what industries can be dispersed and how can they be introduced into country areas consistently with the other aims which were named in the Committee's Term of Reference? In a careful analysis and sevenfold classification of British industries (into extractive, immobile, linked, mobile, public utilities, rural trades

and services) it is shown how many industries are definitely tied to certain parts of the country by physical factors. Of those industries which can be classed as "mobile" so many must, in modern conditions of international competition, be organized in large units that a location in the open country would result in the creation of a small town whilst location in a village would automatically change the village into a small town. To the individual manufacturing concern it is usually cheaper to build a factory on a virgin site than on an old industrial site, but more expensive to the community at large because essential services—including houses—have to be provided in the former case whereas they may already be available in the latter. "Summarizing," says the Report, "we recommend that industry should be encouraged first to make use of vacant or derelict sites in towns and that where industries are brought into country areas they should be located in existing or new small towns and not in villages or the open country."

Behind the fourth (Chapter X) is the idea of making the best use of the limited resources of land by balancing essential national requirements, the siting of new towns and villages away from the best farm lands (there is still 56 per cent. of the country to choose from), and at the same time the planning of such settlements as whole units using all the resources of modern materials and modern design.

Behind the fifth (Chapter XI) covering miscellaneous constructional development is the general idea that much which is at present ugly but useful can be rendered beautiful and just as useful by sympathetic control of siting and design. Roads, railways, petrol stations, wayside cafés, advertisements, and cemeteries all come into this category.

Interesting as it is, Part III of the Report, describing the form of Government machinery by which the recommendations can best be carried out, is scarcely within the purview of geography. The essential idea is a Minister of Planning of Cabinet rank, who shall have no axe of his own to grind, acting as Chairman of a Committee of Ministers—such as Agriculture, Works and Buildings, Health, Transport, etc.—whose departments *are* concerned with development and use of land. The recommendations in this section are identical with those of the Uthwatt Report. The latter cuts one of the Gordian knots of finance. In the past it has been almost impossible to restrict constructional development because of the need of compensating owners whose land is thus placed under restrictions. The essential proposal of the Uthwatt Report is for the State to acquire all development rights of undeveloped land by setting aside a "global" sum to be distributed amongst all owners of such land as compensation for the right of development.

The Scott Committee makes it abundantly clear that both national and local planning are continuous processes, but indicates what should be undertaken at once by outlining a "Five Year Plan" within the general framework.

It is obvious that the future of the countryside must depend in large measure on the position of agriculture. The Committee was not permitted by its Terms of Reference to make recommendations on agricultural policy but considered much evidence and satisfied itself as to the essential practicability of all its recommendations. During the war a revolution of the first magnitude has been taking place in British agriculture. Our farming with its

one hundred and twenty thousand tractors now at work has become the most highly mechanized in the world; with the long overdue capital expenditure on such things as drainage, liming, hedging, ditching, and repair of farm buildings, and with the sympathetic control of farming by good farmers themselves controlled through the County War Agricultural Executive Committees bad farming is being steadily eliminated. It is true that huge sums are being poured out by the Treasury, but, if rumour be true, these are approximately balanced by the huge sums being paid by the big farmers in the form of Excess Profits Tax. There is every indication that economic analyses based on the pre-war position are entirely false, and that British agriculture after the war will be able to stand firmly on its own feet against anything except *subsidized* overseas production and "dumping."

Of course the Barlow, Scott, and Uthwatt Reports may all be pigeon-holed and no legislation may result.[1] But in the meantime active steps have been taken to forward some of their objects. The Planning Division of the Ministry of Works and Planning is collecting the essential information and preparing a national atlas of maps essential to national planning. The maps are being prepared under the direction of Dr. E. C. Willatts and published by the Ordnance Survey—incidentally the Scott Report lays stress on the key position of the Ordnance Survey in any work of national planning. At the same time the Ministry of Agriculture has set up a Research Section of its General and Intelligence Division with offices at 124–128 Cromwell Road to do comparable work in the field of Rural Land Utilization. Expert advice is to be available to all planning authorities in the country through Rural Land Utilization Officers under my general direction as Chief Adviser in Rural Land Utilization to the Ministry.

Geographers have every reason for satisfaction that the principles for which they have so long fought are thus being so fully recognized.

DISCUSSION

Before the paper the PRESIDENT (The Rt. Hon. Sir GEORGE CLERK) said: At our Afternoon Meeting in January last we discussed the broader Geographical Aspects of Regional Planning. Since then Lord Justice Scott's Committee on the control of building and constructional development in rural areas has made a most interesting report. We are fortunate that one of our Council, Dr. Dudley Stamp, was an active member of that Committee, and has undertaken to give us this afternoon a summary of the Scott Report as a basis for discussion of its geographical aspects.

Dr. Dudley Stamp then read the paper printed above, and a discussion followed.

The PRESIDENT: Before I ask those who are here present to offer us any observations, I should like to read to you a contribution by a distinguished architect who would have been here had circumstances permitted. He is Mr. C. G. Kemp, Chief Architect of the Miners' Welfare Commission.

Mr. C. G. KEMP: There are three principal factors which influence my attitude towards the Scott Committee's Report.

[1] Since these words were written the Government has announced that a separate Ministry of Town and Country Planning is to be set up, but the Ministry is to have executive functions and not as recommended in the Scott Report.

First: an intimate knowledge of the countryside and an understanding of country folk and their needs. Second: numerous friendly discussions of post-war problems with Dr. Stamp and an appreciation of the value and scope of his work as Vice-Chairman of Lord Justice Scott's Committee. And last but not the least important from the point of view of any remarks I can contribute to your discussion, is my viewpoint as an architect, and in this connection I should like it to be understood that the views expressed are purely personal.

The Scott Committee's Report based on the evidence of representatives of no less than ten Government Departments and forty-two other organizations indicates that the vast majority of people interested in planning want to attain the same result. But it does much more than that. By a survey of the present position, a description of the kind of country we as a nation want to live in and by the suggestions and recommendations it makes for the formulation and development of a national plan, it marshals all the information necessary to form the basis of a complete programme for the physical rehabilitation and future development of the countryside. In itself this must be considered a remarkable and valuable achievement.

For my own part, and I believe that there are a number of architects who would offer a similar criticism, I do not think the recommendations relating to the machinery and procedure necessary for planning and development are sufficiently definite. Nevertheless, architects can, I believe, not only accept, but welcome the Report as a good foundation for the control and direction of rural planning and development in the future.

The mass of material so admirably arranged in the Report and the great problems and vast possibilities which planning on a national scale involves provide stimulus sufficient for many essays, but time will not permit me to do more than outline a few aspects which, in my opinion, are of fundamental importance.

Central Planning Authority.—The establishment of the Central Planning Authority recommended in the Report seems an essential pre-requisite to planning on a national scale, but a recent Press announcement indicates that although a Central Planning Authority has not yet been established, the building of a large number of houses, to be commenced as soon as labour and materials can be made available, is contemplated. The inference is that this building programme will be formulated by the existing machinery and by the old methods. The methods and machinery employed in the past are probably inadequate to cope with the enlarged tasks of the future and the appointment of a Central Planning Authority appears to be an urgent necessity. Since drafting this note it has been officially announced that the Government is shortly to be asked to establish a separate Ministry of Town and Country Planning, but how far this proposal and all it entails differs from the recommendations contained in Chapter XII of the Scott Committee's Report remains to be seen when more details are known.

Satellite towns.—There appears to be a minority but vociferous body of opinion which regards the Garden City as the be-all and end-all of post-war reconstruction—a sort of panacea for all ills. I believe that a few satellite towns, judiciously placed in relationship to the larger aggregations of population, may be necessary and might form a part of the general pattern of the national plan, but we have to take care that the tail does not wag the dog.

Rural development.—Rural building requires equally skilled though different treatment from urban building, and one of the chief needs, I think, is to ensure that it shall be directed to return to and continue the good traditions upon which it is based. A great deal of the beauty and charm of the English village

arises from the instinctive handling of the native materials of which its buildings are formed and the variations in technique and material which distinguish one district from another. These qualities must not be lacking in the buildings which will be necessary for the reconstruction of the countryside, but highly skilled direction of design and building will be necessary to ensure that country buildings are site planned and designed as an integral part of the landscape, and are harmonious and good neighbourly. But progress must not be stultified by a reluctance or refusal to employ new methods, new materials, standardization—or perhaps even prefabrication, though this raises many problems beyond the scope of building science and aesthetics—above all the development of architecture should remain an evolutionary process.

The architect.—Satisfactory building cannot be achieved solely through the application of rules and regulations. It will result only if the problems are understood and intelligently handled by competent architects and other experts who have a knowledge of local conditions. It is also vitally important that all these experts should be highly skilled, that they should work together as a team from the inception of every scheme, and that their work should be planned and coordinated throughout.

In some quarters the sphere of the architect in relation to planning and physical reconstruction seems to be in danger of being misunderstood and misrepresented. In a talk at a recent meeting of the Town and Country Planning Association, Dr. Robson seems to have made statements about the architect's relation to planning which Mr. Ansell, the President of the Royal Institute of British Architects, evidently considered might be misleading. In a lecture entitled "Beauty and utility in planning," which Mr. Ansell, speaking as an ordinary citizen, delivered before the same Association after Dr. Robson's talk, he is reported as having said:

"Dr. Robson gives a formidable list of people whose knowledge, training, and ability are required—statisticians, economists, transport experts and highway engineers, lawyers, geographers, financial experts (who presumably are not economists), medical officers, botanists, biologists, geologists, electrical, mining and gas engineers, public administration experts, psychologists, and students of public relations—and then, very much as an afterthought, he says, 'Architects and surveyors will be needed.'

"Looking at this list, there is only one classification which to my mind has any real qualification for planning, or has been trained in logical planning, and that is the architect's. Take any of the others to an open area and show it to him as a site, say, for any small town or village group of communal buildings, give him paper, pencil, and large-size india-rubber, and ask him to plan the area. Most of them would say that it was not their job (if they were wise), and would decline the invitation. Some of them would offer to plan roads, but civic design is more than a layout of roads. All the others could no doubt give valuable help by suggestions as to what should be included in a plan, but they could not physically plan the area. Only a trained planner could do this, and having regard to the three-dimensional nature of civic design, only the planner with architectural training can in the last resort set down the layout which shall not only incorporate what the public demands, but do so in such a way that while utility and convenience are assured, beauty shall be, not added to, but inherent in the solution."

I need hardly add that Mr. Ansell's remarks have my support, and I have no doubt that they also have the support of the great majority of architects.

If the properly skilled architect-town planner is not chosen as the Captain of the planning team, I would like to know who should be chosen instead?

In the main the Scott Report is concerned with the problems we have to face and the aims that should guide our plans in solving them. On the majority of the questions discussed and the recommendations made there can be no serious difference of opinion. The value of the Report as a solid contribution to the future health, wealth, and happiness of the countryside can only be measured by the extent to which its recommendations are adopted. As documentary evidence of our aspirations, it is a truly magnificent piece of work.

The PRESIDENT: I will ask Mr. Darcy Braddell, who is here as representing the President of the R.I.B.A., to address a few words to us.

Mr. DARCY BRADDELL: It is a great honour to me to represent Mr. Ansell here this afternoon, and I feel that the first thing I should do is to pay a tribute to Dr. Dudley Stamp for, I think, one of the most brilliant expositions I have ever heard of a blue book. He has made the Scott Report a living thing. It was tremendously interesting to me, first of all, to learn who sat on the Committee. I had no idea that such a diversity of interests were represented.

Dr. Stamp has shown us quite clearly that the Scott Committee has done its job, even if there was a minority of one. It did not make a positive plan for the solution of our troubles, but what it really seems to have done has been to produce a document which directs the way in which we must think on this subject. It has laid down principles as the basis of its recommendations, and that is the important thing. There will always be a diversity of opinion as to how the principles should be carried out. I wish that one or more members of the Committee had been architects, it might have added to the value of what has emerged.

I was present at the conference on town and country planning to which Mr. Kemp referred in his communication, and I should like to make it clear that Mr. Ansell did not himself contend that the architect must be the commander-in-chief for planning. What he said was that you cannot get on without the architect. The reason is that while you may arrange life in the most perfect way functionally, if beauty is not brought into your arrangements you will have failed. You will not arrive at that beauty by just making things work, by just having roads in the most convenient positions or services easily run. That does not produce the thing we all want to see.

We know England has a marvellous inheritance of beauty, and that inheritance has been badly treated during the last few years, also, that it is in great peril of being lost altogether. We want to keep it. A great architectural background has to be preserved somehow or other. To do this the new world has always to be considered from an architectural point of view. We all enjoy seeing the old villages of England; they were not brought about by planning their buildings in architects' offices, they were brought about by a number of different things which it is important that we should realize. Above all, by the essentially sound craftsmanship which was prevalent not only amongst the builders but amongst the people for whom the buildings were made. To-day, unfortunately, craftsmanship is at a low level, and the appreciation of it is lower still. That latter point is important because no man can design for a public which does not know what he is aiming at. If you have a public which can put up with a slogan such as I saw the other day, "Make sure of your Tudor Sun-trap now," how do you suppose that there can be good architecture? If the public want Tudor sun-traps these will be given them by speculative builders. But you ask the public how they got good motor cars, and the true reply will be that it was because they knew what a good motor car was like. If you have got to

a point where the intelligent public know what they want, you have started to ensure good building.

I am afraid my remarks have been rather rambling. I did not know that I was to come and speak until an hour or two ago, and I did not know what Dr. Stamp was going to say. All that I can do is to thank him for telling us so much about the Scott Report. He has told me much more about it than the careful précis of the Report which was made by the Royal Institute. A part of our own pleasure in his paper is occasioned by the fact that the Reconstruction Committee of the Royal Institute has recommended so many of the things that the Scott Report itself recommends.

The PRESIDENT: We are fortunate in having with us Professor Salisbury. Perhaps he will give us the benefit of his views, especially in regard to the important question of nature reserves.

Professor E. J. SALISBURY: I should have liked to have said something about the planning of England from the point of view of future agriculture, but as a member of the Agricultural Research Council I am precluded from doing so. I will only say this, that the planning of the agriculture of the future presents to my mind just the same difficulty as was presented for ages and ages to the minds of theologians by the endeavour to reconcile predestination and free will. Predestination is represented by Government control, and free will by the aspect which has played so important a part in the history of agriculture in the past, namely, the initiative of the individual.

Turning to my particular subject, that of nature reserves, I think the first and most important thing which is necessary for the public at large is to be warned that the preservation of nature is not something which is of interest to science alone. We all recognize that change is the salt of life, and even to the dweller in a slum who has no knowledge of science whatever the sight of a butterfly he has never seen before, or of a cowslip unfamiliar to him, has just as much pleasure and just as much spiritual content as it has to the scientist. Therefore I think it is important to realize that for every individual the preservation of nature is the preservation of amenity.

The next point is the question, how this preservation is to be accomplished? In that connection I think the first and most important point to emphasize is that we have good reason for believing that, provided the environmental condition can be maintained unchanged, the whole complex of nature: the vegetation, the insects that depend upon that vegetation, and the birds that depend upon the insects, I will not go through the whole chain, will be maintained. But in order that we should be able to preserve the different constituents of our flora and fauna which are the heritage of a very ancient past, it is essential that we should preserve a certain limited number of very carefully selected areas representing all the different types of plant community which occur in this country. We must preserve the shingle beaches, the different kinds of woodlands, the scrub, and so forth, and these should be appropriately distributed over the surface of Great Britain, having regard to those areas which are already preserved by means of the National Trust and other bodies.

This brings me to my third point, that the preservation of such areas cannot be accomplished, as many people imagine, merely by putting a fence around them and preventing any further change. You cannot prevent the change if you just leave it alone; in fact, in many instances it would probably be possible to preserve these areas of vegetation quite unchanged without in any way interfering with public access to them. But it is of fundamental importance if we

are going to preserve samples of natural vegetation with their accompanying fauna for future generations that they should be controlled carefully and with vision, and that means expert knowledge. In that connection I need merely mention two examples. At Wicken Fen we know that in order to preserve the flora, very rich in various flowering plants and insects, it is absolutely essential that the Fen vegetation should be cut from time to time, but it has to be cut carefully. Still more do transition types such as scrub, the most varied in bird, insect, and plant life require continued and expert control to preserve their attractive characteristics.

The PRESIDENT: I should like to ask Mr. Jellicoe, President of the Institute of Landscape Architects, to address us.

Mr. G. A. JELLICOE: I have read the Scott Report at two sittings with considerable enthusiasm, except for the Minority Report, which took several sittings. It is an inspiring document. First of all I thought that, being a Government publication, it would be hard to understand, but it was not, and as one went through it one felt that it was a "springboard" upon which everyone concerned is to be congratulated. It is a springboard of positive facts, and likely to have a most important bearing on the future. We must carry on the past into the future. That is a particularly difficult thing to do in this country, because this is a big country with a wonderful past, and it is so complicated that anything we are likely to do in the way of planning is bound to incorporate the past.

I think myself that we are on the verge of a change in the outlook on landscape. I have just had the good fortune to visit the States, where I have studied landscape to a certain extent. There the scale is huge, but there is positive planning on the grand scale. The area of the planning in Tennessee, for example, is equal to the area of this country. They are damming the river Tennessee, 650 miles of it, with twenty-four dams. It raises the standard of living of all the countryside round about. The people themselves derive benefit, as do all kinds of industry. At the same time new landscape is created which seems to me very much more distinguished than what was there before. In the eighteenth century in this country we dammed valleys to make them beautiful, but in the nineteenth century if we dammed valleys it was for a waterworks. Actually some of the dammed valleys of Wales and elsewhere have made fine scenery, but in Tennessee great lakes have been created, amenities have been introduced, and generally a higher standard of living has been set up.

We should look at our planning here in that light. I do not think it is the right point of view to take for example that a cement works in any part of the country will destroy the landscape. Surely one can entertain the conception of a change from static landscape to something designed and creative without sacrificing beauty. We can make industries clean, we can give them a gracious and distinguished exterior.

The same with forestry. I do not think that the Forestry Commission in this country has a conception of what a forest might be if it were developed. In the United States—I do not like always to be referring to the States, but the example very forcibly presents itself—seventy-five landscape architects are employed by what corresponds to the Forestry Commission, and their work does not stop at the creation or culture or preservation of forests, but roads and hotels are built so that people shall go there for health and recreation. It was my good fortune some years ago to prepare an advisory plan for the Forestry Commission. There was an area of about 400 square miles, and the idea was to leave certain open spaces of countryside. The people would be invited to come

inside the forest, and, of course, they must have places where they can stay. When you are inside those open spaces in the midst of the forest you are not connected in any way whatsoever with the past. The things with which you have to do are the present. It is true that the trees themselves have been there for numberless years, but no buildings are there, and therefore you can have your modern architecture, your electric power, and your hot baths, without a clash of ideologies.

The Scott Report describes our architecture up to now and largely our landscape as based upon man's action. But we are really at the junction of two ages. The buildings, mainly in brick, have been made by man, but now the machine has come. We see the machine age in building in Russia, America, and other countries, and slowly it is coming here. We hear of fantastic mass production in the way of housing, and we have to face the fact that much of the work which has been done by man in the past will in the future be done by machine. A landscape is all discrepancies, one tree is never like another, but we are coming to an age in which one house is going to be exactly like another.

The PRESIDENT: Perhaps our distinguished Fellow, Professor Taylor, will oblige us with a few words.

Professor EVA G. R. TAYLOR: I can match the "Tudor sun-trap" mentioned by the first speaker by an advertisement which reads "Live in Watford's cosy palaces"! Two people have raised the question of the personnel of the Scott Committee. It is true that the Committee was very representative of the classes from which such committees are usually drawn, but the voice of the mass of the people was not heard, nor was the voice of the commercial world. It might be replied, of course, that neither of those bodies, although they constitute 99 per cent. of the population of this country, is particularly vocal. But in extremity they do become vocal. In *The Times* to-day I see that in the United States both bodies, in some cases secretly, and in others openly, are claiming to take a part in planning. Mr. Henry Kaiser, whose name we know in connection with his enterprise in building ships every five minutes, has realized that both those classes have something to say on the subject. It is a question of "plan or be planned," and Mr. Kaiser, with the help of other American business men, is trying to lay out a plan of such magnificence and vision that it will outdo the most optimistic plans of the planners. One of the troubles we have to face now is that among those in authority you will hardly find one who envisages a town or a city or a village as anything more than a collection of buildings. They fail to envisage it as a functioning organism and fail to see therefore that if you cut the heart out of the functioning organism the city or town or village is going to die.

Then, going on to another point, there are two fundamental problems which cannot yet be solved and which underlie all that is said in this Report. One of these is the question of the right balance between industry and agriculture. What is the true answer to the question of the balance to be aimed at between those two great fields of human activity? Secondly, what is the true answer to the question of concentration versus dispersal? Then there is another twofold problem. In the Scott Report there appears a map over which it would be well to spend a good deal of time and thought. It is a map illustrating the spontaneous movements of population, at all events the untutored, ungoverned movements of the population during the years 1931–38. You can draw a line across this country from Rhyl in North Wales down to Aldershot in Hampshire, and apart from the attraction of cities like Bristol and Plymouth, you will find that the people on the west of that line had steadily flowed into that part of central England which has been described this afternoon as the "coffin."

Side by side with that there has been a movement from the centre of the cities out to the circumference.

Now, those are two quite different movements, governed by quite different factors, and needing to be dealt with on quite different lines. As regards dispersal and concentration the Scott Report suggests that part of that movement from the west country towards and into the centre would be checked if we supplied amenities for the country folk. Incidentally, I always distrust people who call the inhabitants of the country "folk," for they are thinking of them as a museum piece, and this Report has not escaped that criticism. But it is suggested that these people would hold back from that movement if amenities were provided for them: electricity, gas, sewers, piped water, and so forth.

I do not think these are the fundamental needs which make the countryman move into the town. If we consider the life history of the countryman from the cradle to the grave we realize that he has a great many and continuous contacts with the town. He probably goes to school with older children in a larger village than the one in which he lives; he goes to a secondary school in the nearest small town; he goes to a technical school in a larger town at a distance, and during his adult life for all sorts of purposes he visits the town. That constant necessity of visiting the town, which makes it appear advantageous to live there, would not disappear if his village were provided with all the conveniences I have just mentioned, and we shall not get rid of this migration by providing country people with gas and electricity.

But there is an opposite aspect to this question. If we in the towns do really need gas and electricity and transport, if they loom so large in our minds as to make us suppose that we could not do without them, we have to remember that a large number of townspeople are anxious above all things to go into the country, and the more remote the country the better. I have sometimes asked myself when, living in a country cottage, I have had to go out to the spring on a cold morning to get water, whether the price for such country remoteness was too large a one to pay, and I for my part have come to the conclusion that the price is not too large. It is possible therefore that given amenities there will be a constant filtration of townspeople into the countryside in numbers not always to be desired.

Let me pursue one more point, namely, that the amenities and utilities in respect of housing, if they are brought to the country, will make life there as expensive as, if not more expensive than, in the town. At present the country is the place of refuge for people with slender means who yet want to live a gracious and simple life.

The author of the Minority Report of the Scott Committee has brought forth the typical argument of an economist, one who thinks entirely in terms of cost, and to whom cost is always worked out in pounds, shillings, and pence. He remarks in relation to the necessities of post-war agriculture that there will be no need for a prosperous agriculture for the sake of feeding the people, because all that we shall have to do will be to have a sufficient reserve of ships to import the products of abundant harvests elsewhere. But a sufficient reserve of ships means a sufficient reserve of men to sail in them, and should the world not be delivered from the threat of war there will always be the possibility that a large proportion of such ships would be torpedoed. There comes in the human factor. The economist's solution is always in those bloodless terms. The laws of economists are based on the assumption that man is entirely guided by the seeking of his own personal self-interest.

The PRESIDENT: Perhaps Mr. Beaver, a colleague of Dr. Stamp, will speak.

Mr. S. H. BEAVER: Dr. Stamp has on another occasion remarked that the land is our only ultimate asset—I think those were his words. He also said something of the same kind this afternoon. We have to bear in mind that that is so. We have got to play the game with our land, and that is just what our economists will not let us do.

Professor Salisbury's remarks about predestination are capable of another interpretation. He said that Government control might be likened to what is known in theological circles as predestination, but it seems to me that predestination corresponds to the geological background. It is the geological background of this country which does, after all, control the surface soil and this in its turn controls agriculture. There are, as you will discover from the Introduction to the Scott Report, a number of different characteristics attached to the soil in different parts of the country, good, bad, and indifferent, but it just so happens that the very best soils in this country are the very best from a number of different points of view. They are the best from the agricultural point of view because they are well drained; they are the best from the point of view of aerodromes because of the flatness of the surrounding land, and they are also the best from the point of view of factory building and speculative building. The result is that there has been a constant collision of interests between the farming community anxious to secure the rich land on the one hand, and the builders, equally anxious to retain it for another purpose on the other. Somebody in a high position with a great deal of geographical knowledge at his command ought to be responsible for the way in which we use our land. Some sort of balance must be maintained in the future between the maintenance of agriculture and the spread of industry. When Dr. Stamp talks about the dispersal of industry he is opening up a very thorny problem. One of the great troubles in planning is that we are not planning for the country which exists at this moment, but for something which may be decades ahead. After the war if we are to survive at all, if the British Empire is to survive, there must be export trade, and if we put all our industries in the "coffin" we shall be in a poorer position than if those industries were dispersed towards the periphery. In planning our industry and agriculture we have to bear in mind also that in a couple of decades the composition of the population will not be exactly what it is to-day.

The Report suggests that derelict industrial areas should be utilized for new industries. That depends a good deal on other things. In South Wales we have in Merthyr Tydfil particularly and also in Ebbw Vale examples of townships high above sea-level and 20 miles from the sea, in a God-forsaken landscape. It would be much kinder if the new industries were put at the lower end of those valleys. That is a point of some importance.

It is a long-term planning policy that we have got to create. The *laissez-faire* policy of the past, the opportunist policy as I might call it, has led us into the present rather haphazard distribution of things in this country. It is a policy which depends on the immediate plannings of the moment. We know from Sir William Beveridge's Report that the immediate plannings after the war will not last for long. They will have to be changed. The land used in planning must be used regardless of immediate economic values. It must be used with a view to all the possible changes in the economic and in the population structure of this country as a whole.

The PRESIDENT: No doubt there are others who could enlighten us, but the hour is getting late and I will ask Dr. Stamp if he wishes to make any observations in reply.

Dr. DUDLEY STAMP: Innumerable points have been raised in the discussion, but I shall be forgiven if I deal with only a few. With regard to the point that this Committee did not include among its members an architect, it needs to be remembered that the Committee was allowed, and took advantage of, very great freedom in asking expert witnesses of all types to come before it. The Committee itself followed the English jury system of twelve just men. They were chosen for their broad views rather than for their technical qualifications.

Everything which Professor Salisbury urged about nature reserves and the expert control necessary one fully appreciates, and that does to my mind underlie the fundamental question of a positive planning. Planning must be done all the time. It is essential in every direction that there should be correlation and utilization of special training and that a balance should be kept between the various factors and interests and uses concerned.

Mr. Jellicoe voiced very much my own opinion concerning positive planning, and I do agree that we need not be afraid of the future. I am sufficiently young to look forward to a future which we shall enjoy. I believe that we shall have a countryside not visualized as yet. I hope the Scott Committee's Report if read again will be considered not to be tarred too heavily with the preservationist brush. We must get away from the purely preservationist idea. Nature, which includes human beings, is essentially dynamic and never static. It is always progressing and developing, and in respect of positive planning we certainly need have no fear as to the future.

One of the great delights of listening to my colleague Professor Taylor is that I never know what she is going to say. All I do know is that she undoubtedly has that delightful kink whereby, if she is put inside a china shop, she will inevitably throw something. I was not quite sure at the end of her peroration this afternoon what she was leading to, and I hope she will read the Scott Report again.

Once more as to that recurring point, the composition of the Committee. When you have twelve people concerned how should you proceed to get the voice of what Professor Taylor called "the mass of the people"? You cannot have one hundred of them—that would be unworkable. But I might remind Professor Taylor that one of the members of the Committee was an agricultural labourer who had left school at the age of twelve, learned to be a plough-boy, and spent his early days in one of the smallest and poorest of labourer's cottages. He, as the chosen representative of his fellows, became one of the local secretaries of the Union of Agricultural Workers, and he did speak on the Committee for at any rate a large section of the masses of the people. There were other members of the Committee in the same way who, although not chosen as specific representatives, did, as far as they could, get down to the subject. The Committee by its wide range of experience was not unfitted for considering the masses of the people. Who for example could have a finger on the pulse of the crowd better than the managing director of a motor company, who was one of our members?

There has got to be a very considerable degree of vision in positive planning. We have to look ahead and, as in natural evolution, so in social evolution, there must be a certain degree of trial and error. There will be a number of bad shots. Nevertheless, people must be presented with a *fait accompli* because, until you give them this, they do not know whether it is better than what they have had in the past. All democracies tend to be extraordinarily conservative. The British workman is the most conservative of them all.

It is quite clear that Mr. Beaver and I speak the same language. I do not want to see a resuscitation of industry in those narrow Welsh valleys where

human life must be lived inevitably under drab and narrow conditions. In othe
words, hard and fast rules cannot be everywhere applied to planning. That i
why we do need such emphasis as the Scott Report laid upon this subject. W
need people who are ready to direct their attention to the problem not as one o
fixed contours but as at heart a very human problem.

I will end on the note of the need for team work. We must look upon th
development of the future of this country not with the fear that we may lose
great deal, but with the confidence that there is a great deal to be gained, an
that it will be made possible by the widest range of cooperative effort.

The PRESIDENT: We have had a most valuable paper from Dr. Stamp and
very fruitful and enlivening discussion. It only needs one thing to round it off
namely, my own observations summarizing the afternoon's proceedings. Bu
fortunately for you it is very late, and again fortunately any summary from m
is quite unnecessary. All you would wish me to do is to express our warm thank
to Dr. Stamp and to those who took part in the subsequent discussion, and th
I venture to do on your behalf.

THE FIRST HUNDRED VOLUMES

THE hundredth volume of the *Geographical Journal* was completed la
month in circumstances which forbade anything like a celebration of th
Jubilee of its foundation in 1893, for the Paper Control has reduced it to
shadow of its former self. It was nearly but not quite so small in 1918 an
1919: then as now war had put an end to exploration, and there was not
much to publish. In 1918–19 there was no difficulty in getting paper, excep
that the price was prohibitive; since 1940 it has not been a question of price
but of the quantity allowed by the Controller's licence. So for one reason o
another a bound set of the *Journal* will show for all time the dates of the tw
World Wars. But it is something to be alive in these days, and to be thankfu
that neither the House of the Society nor the works of Messrs. Clowes
Beccles have up to the present suffered any serious damage, to make a brea
in publication. The *Journal* has been late, owing to Government priori
and shortage of staffs and slowness of communications; and recent volume
have had to end with a double number; the saving of two covers in the ye
allows something like thirty more pages of text from the ration.

The *Record* of the R.G.S., published in 1930 to celebrate the Society'
Centenary, deals on pages 241–3 with the history of its publications: first th
Journal of the R.G.S. which from two or three parts a year had become aft
1850 an annual volume "often many months behind time." By the energ
of Mr. Francis Galton this annual volume was supplemented in 1855 by th
Proceedings, of which "the publication, though prompt, was irregular, fro
five to eleven numbers appearing in the year," but illustrations were fo
bidden. The two publications ran together until 1878, when their place w
taken by a new series of *Proceedings*, published monthly, which grew int
substantial annual volumes of about 900 pages. "Illustrations, forbidden
first, were gradually but very sparingly introduced in the form of wood

engravings, but original maps were regularly included." This second series of *Proceedings*, published monthly, ran for fourteen years. But Dr. Mill records that "Mr. Freshfield continued to press in his incisive way for more attractiveness in the form, more artistic excellence in the illustrations, and a higher literary standard in the presentation of the facts of Geography. The last vestiges of resistance to reform were overcome when Mr. Keltie assumed the editorship, and in January 1893 there appeared the first number of *The Geographical Journal*."

The last volume of the *Proceedings* had contained two portraits in photogravure or collotype, one of Columbus, and one of H. W. Bates, who had died in March 1892; the few other illustrations were excellent wood blocks, mostly signed Whymper and possibly cut by Edward Whymper himself. The first volume of the new *Journal* produced the first half-tone blocks, in a paper by F. C. Selous, "Twenty years in Zambesia," which has four wood-cuts by Whymper and two full-page half-tone blocks of the Zambezi and the Victoria Falls made by Meisenbach. The last wood-cuts were in the following number, for May 1893; the second volume for the year has no wood-cuts, but a number of half-tone blocks, including a picture of Angkor Wat to illustrate a paper by the Hon. George N. Curzon, M.P. All these were printed in the text; plate paper was not introduced until May 1900, and then only for two-colour plates made from negatives by the Ives process, taken by Mr. H. J. Mackinder on his journey to Mount Kenya. For the advantage of the blocks, but at the expense of the letterpress, the paper had been getting more and more highly calendered each year; in 1908 the best blocks were given a blank page of the text behind them, but were still paged in the text. At last in 1910 plate paper became the rule for nearly all half-tone blocks. And except for a few not too successful adventures into photogravure for the heavily illustrated accounts of the earlier Mount Everest expeditions, the half-tone block, gradually improved, has been the mainstay of the *Journal* illustration.

A great feature of the earlier volumes of the *Journal* was the profusion of folding maps, two or three in every number. Skilled labour was cheap in those days, great parts of the world were still quite unmapped, and every traveller brought back route-traverses of unknown country to be worked up into maps by the draughtsmen; under Mr. Henry Scharbau until 1904, and then for many years under the direction of the Map Curator Mr. E. A. Reeves, until his retirement in 1933. The maps of that early period were distinguished for their hachuring or shading of hill features, excellent rock drawing, and the plentiful use of colour. The two senior draughtsmen of the Society's present staff, with forty-four and thirty-nine years' service respectively, have maintained the finest qualities of these earlier volumes through a large part of the hundred.

Up to 1916 the typography remained unchanged from 1893, hand-set in a variety of modern faces. From January 1916 the *Journal* has been machine-set, at first in one of the earlier Old-Style series of the Monotype Corporation, but since January 1928 in Monotype Imprint, with Plantin for the cover. At the same time the whole lay-out was overhauled under the guidance of Mr. Stanley Morison, with the ruling principle that the whole of the text should be set in different sizes, Roman and Italic, of a single fount.

Parallel to these changes in the typography was the development of the later style of map draughtsmanship which has given to the *Journal* in the last fifteen years a particular distinction. The older method of building up the thicker strokes of a letter by filling in between two fine lines drawn with a steel pen was altogether too slow and expensive. Our present methods of writing names with fine quills, by which the necessary graduation in strength of the stroke can be obtained without building up, were fully described in the *Journal* for May 1929 (vol. 73, p. 429). We owe much to the advice of the late Captain Withycombe, and equally to the enthusiasm with which Miss Madelyn Walker of the L.C.C. School of Art at Hammersmith formed for us the elements of a style based upon the lettering of the great Hondius map of 1608 but adapted to the quill. Two or three young draughtsmen, already practised in the use of the quill at the L.C.C. schools, received from her further instruction which has allowed them to develop the style of penmanship now chiefly practised by the Society's Drawing Office staff. Its advantages have recently been described in the account of making the British Council Map. The sketch-maps introduced into the text of the *Journal* harmonize with the Old-Style character in which the *Journal* is printed. For a supreme example of legibility even when it is necessary to write a great number of names and of numerals, one may refer to the large folding-map illustrating Mr. Philby's paper on "The Land of Sheba," in the *Journal* for July 1938 (vol. 92, p. 96).

In the earlier volumes of the *Journal* the folding-maps were all redrawn in reverse upon stone by the lithographer, from drawings made by the Society's draughtsmen. It became essential to find some method of eliminating the duplication of drawing, and of reproducing directly from the finished drawings of the draughtsmen. The first map reproduced directly by photolithography appeared in 1914. For a long time it was still necessary to make the drawings upon stone for the hill shading and this led to a gradual decrease in the frequency of hill-shaded maps. One could obtain the colour plates in line by making a series of prints in pale blue from the finished drawing and inking up in black the drawings for the separate colour-plates, but it was not possible to obtain hill shading by this method. At last in August 1939 a map of Jan Mayen showed the remarkable merits of photogravure. It was difficult to believe that the names in a rich black and the hill shading from delicate pencil drawing reproduced in a warm grey were obtained in a single printing.

The Secretary of the Society is also Editor of its publications, so the *Journal* in its fifty years has had only two editors: Dr. J. Scott Keltie from 1893 to 1915, and the present Secretary since that date. The Editor must naturally depend a great deal upon the Librarian. From 1893 until his retirement in 1934 Mr. Edward Heawood contributed to every single number of the *Journal* and much to every volume since. His successor in the office of Librarian is following that example. And since 1933 a succession of young Assistant Editors have taken over much of the heavy routine work and given particular care to the illustrations. Lastly may it be remembered that the same firm of printers at Beccles have printed every one of the hundred volumes, and that the *Journal* owes much to the late Colonel George Clowes for his long and friendly care in every detail of its production.

THE GEOMORPHOLOGY AND GLACIOLOGY OF NORTH-EAST GREENLAND

STUDIES IN NORTH-EAST GREENLAND, 1939–1940. Parts I to IV. By HANS W:SON AHLMANN. *Geografiska Annaler*, 1941 *and* 1942. 6½×10 *inches;* 145–210 *and* 1–50 *pages.*

PROFESSOR AHLMANN is to be congratulated upon this happy issue to his prolonged activities and his enthusiasm, an insight into which many of us were enabled to obtain at the time of his paper in 1935: "Contribution to the physics of glaciers" (*Geogr. J.* 86 (1935) 97). It was in the discussion following that paper that Dr. K. S. Sandford remarked, "Professor Ahlmann is one of those who are engaged in making glaciology an exact and precise science, and he is doing it at the right moment, because our ordinary observations are beginning to lead us into some difficulty."

The present Studies are a worthy addition to their forerunners, which began in the Jotunheim of Norway in 1924–26, and were continued in North East Land in 1931, in West Spitsbergen in 1934, and on Vatnajökull in Iceland in 1936–38. They consist of four parts: Part I. The main morphological features of North-East Greenland; Part II. Glacial conditions in North-East Greenland in general, and on Clavering Island in particular; Part III. Accumulation and ablation on the Fröya glacier: its regime in 1938–39, and in 1939–40; and Part IV. Meteorological records and the ablation on the Fröya glacier in relation to radiation and meteorological conditions.

Parts I to III are by Ahlmann himself, while Part IV is by his meteorological assistant Backa E. Eriksson. Observational work, in the absence of Professor Ahlmann during the winter of 1939–40, was carried out by Kaare Rodahl of Oslo University, who was primarily in the district for vitamin researches on arctic animals. The present record, although not quite complete, is a monument to the industry of this small team.

Part I, which is well illustrated with aerial photographs by the Norges Svalbard- og Ishavsundersökelser and a set of maps and charts, begins with a short review of the main structural features of the region and their development. The author adopts the geological conclusions and map of the mainly Swiss-Danish-German group of geologists, championed by Professor H. Backlund of Upsala, as recorded in the Schaffhausen publication of 1939,[1] with which however many others, including the reviewer, are not in agreement.[2] This difference of interpretation specifically applies to the inner fjord tract of the Caledonian orogeny and the origin of some of its formations, and does not in the main affect conclusions as to the general morphology of the region, which now lies clear of the Inland Ice-cap. Most geologists agree that faults and tectonic features have some degree of prominence in the present day topography, and the author discusses these features in detail: they are more clearly to be seen in the outer fjord region than in the intermediate and inner districts.

Considerable attention has naturally been given to the main morphological features of the extensive plateau and summit areas, which dominate the inland and outer coastal districts respectively. Ahlmann states that recent Danish

[1] "Grönland 1939." Tagung der Naturforschenden Gesellschaft Schaffhausen. *Mitteil. der Naturf. Gesell. Schaffh.* Bd. XVI. Jahrgang 1940. Schaffhausen.

[2] "The structure of the Kejser Franz Joseph Fjord region, North-East Greenland." *Medd. om Grönland*, 119, 1939.

topographical maps make it reasonably certain that the inner and outer plateaux areas and also the summit area are interconnected. They are all remnants of what has once been a more or less uniform high plateau rising towards the west. The question of the likely continuation and grade westwards of this plateau under the Inland Ice is discussed in terms of the known thickness of 1820 metres of the ice-cap at 120 km. from its margin, as determined farther south between latitudes 71° and 72° N. by Wegener's party. From the topographic profiles constructed Ahlmann concludes that the rising present surface of the Inland Ice is practically continuous with the postulated initial plateau surface; and that it is at least likely that the outer portions of the Inland Ice are resting on relatively level plateaux.

There is a broad well-developed continental shelf at a depth varying from 0 to about 300 metres, "cut transversely by wide submarine valleys, apparently continuations of the largest fjords" (p. 157). The latter fact indeed is apparent from the bathymetrical work carried out earlier by R. Spärck and by A. Jakhelln independently. The author concludes that, as in other countries round the Greenland Sea, or Scandic, "the continent rises from the deep sea basin in two well-marked steps, first by the continental slope to the shelf, and then from the shelf by the coastal cliffs to the high inland plateau. Contrary to what is the case in Norway and certain parts of Spitsbergen, there seems to be no supramarine part of the shelf except perhaps locally here and there, *e.g.* on Shannon Island. This absence of any *strandflat*, in contradistinction to Norway, should be considered in relation to the fact that Greenland is still covered by inland ice, and must therefore now be in a depressed position similar to that from which Norway has been raised during and after the regression of the glaciation" (p. 157). It will be recalled that Professor Ahlmann's views differ radically from those of Fridtjof Nansen regarding the origin of the strandflat and its significance. Ahlmann also discusses critically the views of Th. Vogt, Wager and Deer, Noe-Nygaard, and others, in regard to changes of level of the whole region, and considers that, while it is likely that the principal changes of level took place in the late Tertiary, these changes are still continuing and in an upward direction. However southern Greenland and southern Iceland have been shown elsewhere to be subsiding at the present time.

There is a very full discussion of the fjord system, the outstanding morphological feature of the region, which some years ago the present writer described as without doubt one of the most remarkable and spectacular of its kind in the world (*Geogr. J.* 90 (1937) 273). Bathymetrical data obtained during several earlier expeditions have demonstrated that it is the westernmost parts of the largest fjords, which are the deepest. The shorter fjords opening from the east coast are not so deep. These western deeps are remarkable. Spärck having claimed for Franz Josef Fjord a greatest depth of about 546 fathoms, and Thorsen for North-West Fjord (Scoresby Sound) 793 fathoms, the deepest known fjord. Incidentally, in the case of Geolog, Dusén, and some other fjords Anton Jakhelln has found that in spite of relatively shallow thresholds, 41 and 49 fathoms in the above-named fjords respectively, the deep water of their inner basins, descending to 383 fathoms in the case of Geolog Fjord, is so well aerated apparently by internal waves, since it is remote from oceanic circulation, as to have abundant bottom animal life.

These huge fjord systems of North-East Greenland consist of several rows of deep basins: most of the cross-sections are of typical U-shape, with very steep sides and flat bottoms, particularly the inner reaches, while there is rather more irregularity in the outer easterly reaches. The same relation applies to the longitudinal profiles. "An uplift of 400 metres would transform all the

fjords into long rows of narrow lakes beside one another, the westernmost of which would be 300 or 400 metres deep" (p. 165).

In describing at length the much-debated mode of origin of these great fjords, the author concludes that the undoubted north–south dislocations of the country have controlled the direction of the erosion, and to a greater or less degree facilitated it by their zonal weakness so as to yield eventually the north–south fjords, but that no evidence of the main east–west fjords being directly tectonic phenomena has been produced. Moreover the general fjord-plan he considers incapable of formation by glacial erosion: "the facts definitely point to their being of fluvial origin" (p. 173). From his own observations (during, it is true, but a few weeks' stay in Clavering Island) "I feel justified in saying that fluvial erosion, when controlled by a low base-level of erosion, may have produced very great results in the rock of which North-East Greenland is composed." And again, "the more data we obtain from comparatively recently uplifted land districts, composed of more or less easily denuded blocks, the more do we become convinced of the very great power of fluvial erosion to create comparatively quickly valley systems of considerable extent and depth" (p. 173).

As to glacial erosion in the region, Ahlmann maintains that J. H. Bretz's very positive view is untenable, and that glaciers of the inland ice or plateau type can only slightly erode a more or less level or gently undulating substratum. "By preventing fluvial erosion, glaciers will in this case [*i.e.* plateau or highland ice] protect their beds rather than the contrary. Localization to well marked valleys will give glaciers considerably greater erosive power, and it seems impossible to doubt that this erosive power will increase with the rate of movement of the ice. The increase is probably not directly proportionate to the increase in the rate of movement, but it will be sudden when the continuous, plastic movement is changed to what is called 'block' movement (*Block-Schollen-Bewegung*). Rapidly advancing glaciers should therefore account for most of the total erosion" (p. 173). With all of which the reviewer is in entire agreement (Odell, *Geogr. J.* (1937) 35, 36), although the author on p. 167 seems to imply a contrary view.

Ahlmann emphasizes the transportation role of the great trunk glaciers, at stages less than glacial maxima, in augmenting their own deepening. On the question of the occurrence of moraines he is emphatic, and unlike Bretz who was astonished at their sparseness he has never seen heavier moraines in relation to the size of the glaciers than in North-East Greenland. These moraines are chiefly submarine, and form thresholds in the fjords. Moreover he demonstrates the incorrectness of Bretz's statement that cirques are mainly absent, and supports the reviewer in recording their widespread occurrence throughout the western mountain zone.

Another significant phenomenon to be found along the borders of the Inland Ice especially, and one which has previously been noted, is the emergence of earlier formed cirques during the present period of recession from maximum glacierization, and Ahlmann confirms their occurrence in the leeward of the great ice masses. This indeed is one more point that diehard glacial erosionists must face and account for.

In brief then, Ahlmann is one of those who regard the fjords as primarily fluvial valleys, though glacially deepened and extended. "By selective erosion many of them have been made to follow courses which the geological tectonic conditions had made less resistant than others. As selective capacity must also be ascribed to the glacial activity, which moreover is far less bound to a definite base level than is fluvial erosion, the fjords have been split up into a number of

basins. The special laws affecting glacial erosion have made this selective capacity most effective in the westernmost portions of the present fjord zone, *i.e.* in that district where the firn line, separating the accumulation and ablation areas, was probably situated when the inland ice was much more extensive than now, and where the rate of movement at the same [places] probably must have been particularly high. Where the inner tributaries joined the huge 'trunk-line' glacier, the erosion of the former diminished and thresholds were formed" (p. 176). This latter thesis is however inadequate to explain many of the profound inner deeps, which occur almost invariably in those portions of the main fjords which lie downstream from points of convergence of tributary fjords, where glacial velocity and abrasion would thereby be greatest. But, as Ahlmann remarks, the present Inland Ice is depressing the country quite appreciably. And that this depression is greater in the west than in the east contributes to the great depths (the "deeps") of the fjords in the inner western parts.

In his concluding section of Part I the author compares North-East Greenland and other districts round the Norwegian Sea. From the large amount of geological and morphological evidence gleaned over many years from Spitsbergen in particular, he agrees with De Geer "in regarding Scandic and its surroundings as one fundamental unit, which during at least the later stages of its history has on the whole been similarly developed" (p. 180). In East Greenland, as in Spitsbergen, it seems evident that "the series of changes of level resulting in the present distribution of land and water occurred in late Tertiary and Pleistocene times. They took the form of repeated subsidences along the north–south faults, and gave the character of a block-faulted district to the outer part of the present land area. There was also most likely a concurrent uplift of the whole continental region accompanied by extensive subsidences in the region now covered by the sea" (p. 177).

Part II is a glacial study of the region largely based on the conditions on Clavering Island, where the author carried out his main observations and measurements. Apart from the large continental ice-sheet, North-East Greenland has also glacier caps of all sizes, whose development is favoured by the prevailing topography. Additionally there are the valley and fjord glaciers, as well as the cirque glaciers of the higher alpine ranges. Very restricted areas, unlike Spitsbergen, are covered by Highland Ice, while no transection (or reticular) nor piedmont glaciers, and no shelf- or barrier-ice at all, are to be found in this part of the country.

The author provides a very full and interesting discussion of the changes of level in the region, and the climate since the last glaciation, as well as the effect of the climate of to-day upon the glacierization, in as far as they can at present be assessed. From the shore-line and elevated beach studies of Th. Vogt and others in south and west Greenland, and those of Noe-Nygaard in particular on the east coast, it would seem that a very fair picture can be obtained as to the progressive changes of continental level, while *Mytilus edulis* finds indicate a once warmer post-glacial period, which probably corresponds to the *Tapes* period of Fennoscandia. The author considers that Bretz's opinion as to the negative value of shore-line studies in the region is not justified. In general it seems that "the present local glaciers in North-East Greenland were considerably reduced, and that at least the outlet glaciers of the inland ice retreated greatly, during the post-glacial warm period" (p. 188).

There follows a detailed consideration of such matters as the altitudes of the snow- and firn-lines on the Clavering Island glaciers; also discussion of the glaciation limit and its relation to the firn line, questions which Professor

Ahlmann has made his special study. Judging by a comparison of air photographs taken in 1932 and prevailing conditions, "it seems likely," Ahlmann considers, "that the difference in altitude between the glaciation limit and the firn line will increase with decreasing precipitation. The smaller the precipitation, the more difficult will it be for snow to accumulate in sufficient masses to form glaciers, and for glaciers to survive unfavourable budget years" (p. 196).

Characteristically, Ahlmann concentrated for his detailed glaciological work upon one glacier in particular, namely the Fröya on Clavering Island. This typical, though small, valley glacier had of necessity and for greater accessibility, been substituted for the much larger Vintergata (Milky Way) glacier. Close study of the Fröya glacier, and especially of its marked system of moraines, has led the author to some very important conclusions. Like other glaciers in the neighbourhood the Fröya is clearly a shrunken ice-mass, and double terminal moraines lie a kilometre away from the present front. "Outside these no traces of any older terminal moraines bear witness to an earlier, greater extension" (p. 200). "In other words, the Fröya glacier has never during its whole existence been larger than when it reached as far as the outer of these moraines" (p. 202). The author comments on the corresponding evidence gleaned in recent years by Sigurdur Thorarinsson regarding the *Hochstand* (maximum post-Pleistocene extent) of glaciers in Greenland generally, Iceland, and other countries round the Norwegian Sea, and states (p. 200) "it therefore seems very plausible to assume as Sigurdur Thorarinsson does[1] that these double moraines —just as in Norway, Spitsbergen, and Iceland—mark the maximum post-glacial extension of the glaciers."

Ahlmann fully appreciates that there is much more to be learnt as to the meteorological and climatological implications of these glacial changes, and emphasizes the importance of the accurate study of volume-changes, as opposed to mere area-changes, in the glaciers, and as a means towards a greater knowledge of their regimes. By regime data past climatic knowledge can be the better assessed. We have of course yet to learn, in relation to these latest ideas regarding the claimed restricted extent of glacierization in post-glacial time, at what period and under what conditions it may be assumed that the Greenland Inland Ice had its even greater expansion when it was able to drop erratics on mountains 4000 feet high at distances 40 or 50 miles from its present border.[2] Is Ahlmann quite certain that no ground moraine exists in the valleys beyond these terminal moraines which may be post-Pleistocene in age? Absence of terminal moraine does not necessarily mean absence of former glacierization, but that its retreat was taking place too continuously for such well-defined retreatal moraines to form.

A point of human interest in this connection is that "the unfavourable climate of the 18th and 19th centuries" (corresponding with the glacial *Hochstand*) "may well have contributed to the dying out of the fairly large Eskimo population formerly living in these parts of Greenland, the remnants of which were observed by Captain Clavering in 1823 on the south side of the island now bearing his name"[3] (p. 202).

Part III is a report, statistical in part, of the regime of the Fröya glacier during two budget years; that is, an investigation for 1938–39 and 1939–40

[1] Sigurdur Thorarinsson, "Present glacier shrinkage and eustatic changes of sea-level." *Geogr. Ann. Stockh.*, 1940.

[2] N. E. Odell, *Geogr. J.* 90 (1937) 15, 35. J. M. Wordie, *Geogr. J.* 70 (1922) 232, 253.

[3] Other possible contributory reasons for the disappearance of the Eskimos were cited by the reviewer in "Franz Josef Fjord and the Mystery Lakes District, North-East Greenland." *Scot. geogr. Mag.* 53 (1937).

respectively of the glacier's supply of solid precipitation and its loss by melting and by evaporation at the time. The author's observations were continued by Mr. Kaare Rodahl who remained in the country until 1940.

In studying ablation the author used the same methods successfully employed in Spitsbergen in 1934 and on Vatnajökull in 1936–38. There was found to be "A very distinct difference in the ablation in the daytime and at night, or rather at times when the observation site were exposed to the sun and when they were in the shade. Naturally the difference was largest on clear days. The ablation was relatively large in sunshine, but in the shade it was very small or none, even when the air temperature was above freezing point all the time" (p. 8). Rain, as was to be expected, produced the largest amount of ablation during one period, and there was a marked difference between clear snow and dirty ice. With increasing altitude there was found to be a decrease in ablation. This result is of interest since it conforms to that found on the Inland Ice by the Wegener Expedition of 1929, but differs from that previously obtained by the author in the Norwegian Jotunheim, Spitsbergen, and Iceland glaciers. The difference in the ablation curves may in part be due to difference of latitude, but it is also essentially climatological and dependent on radiation and convection. The correspondence in the two Greenland curves is thought to be on account of the prevalent continental climate and clarity of sky during the ablation season.

A useful definition of wastage which is also discussed but not in this connection, is that of "gross ablation" and "net ablation," respectively the total of melting and evaporation, and that portion of melt-water which is entirely drained off and is not embodied in the process of firnification—terms that are suggested by Ahlmann in the interests of precision and clarity.

The firn line of the Fröya glacier was observed to be at an approximate altitude of 800 metres; and from the negative temperatures in the firn at depths below 150 cms. late in the season, the author concludes that this glacier cannot be designated "temperate," but must be of "polar" type, *i.e.* frozen throughout its mass: a conclusion quite consistent with the general qualitative observations in the district made by the reviewer. In the short period of measurement (nine days) practically no movement was recorded from the Fröya glacier, its sluggishness being interpreted as an indication of its thinness and of its being strongly recessive. Allowing for local fortuitous factors and conditions detailed in full by the author there appears to be nothing in the values obtained on the Fröya glacier to present or expect any abnormalities in the accumulation curves whether in that for the budget year 1939–40, or in the presumed curve of 1938–39, from which latter it is evident that "the regime must have left a very considerable surplus" (p. 19).

From these comprehensive and penetrating studies Professor Ahlmann concludes that "the extensive glaciation of Greenland, in spite of the small precipitation is made possible by the insignificant ablation in the vast accumulation areas." (Ablation is zero at about 2250 metres above sea-level.) "Conditions are reversed in maritime Iceland, where the huge ablation in the accumulation areas prevents the enormous solid precipitation from glaciating larger areas than it actually does. The same applies to western Scandinavia. Spitsbergen takes up an intermediate position in respect of the magnitude of both ablation and precipitation." Finally, "these opinions, if correct, provide additional confirmation of the principle which I have called 'The Rule correlating Ablation to Insolation and Convection': the more extensive the ice and snow fields, and the higher the altitude above the sea, the greater will—at least in high altitudes—be the relative influence of direct radiation; the smaller the

ice and snow fields, and the lower their altitude, the greater will be the relative importance of convection and condensation" (p. 16).

Part IV embodies the glacio-meteorological records compiled by Backa E. Eriksson. Systematic work with a range of instruments was carried out at two stations, one on the shore of Tyroler Fjord (Leirevåg) and the other in the middle of the Fröya glacier at 453 metres above sea-level. Space does not allow of justice being done to the wealth of observational data and statistics. Briefly, the deductions and general conclusions that are of special interest to the glaciologist relate to the distribution of ablation energy at the stations on and below the Fröya glacier, and a comparison with other regions previously examined round the Greenland Sea. For the Fröya glacier itself Eriksson shows that convection plays by far the largest part in the lower half of the glacier during the latter part of the ablation season. Insolation however is probably, according to Ahlmann (Part III, p. 15), more important in the first part of the ablation season, though convection must be the decisive factor during the ablation season as a whole. The actual percentage of total heat of ablation is given as 83·4 for convection, radiation being 8·2, and condensation 8·4. These figures correspond strikingly with those obtained for Vatnajökull during the month of August, where convection amounted to 91·5 per cent. and radiation 8·5, but for somewhat different climatic reasons, which are cited. In the same way the values of total ablation energy ascertained for the lower station (Leirevåg) on Clavering Island, 5 metres above sea-level, bear a marked resemblance to those from Isachsen's Plateau (Spitsbergen), radiation in each case, at just over 50 per cent., being the principal agent in ablation; but that convection heat at Leirevåg (34%) should so nearly correspond with that on Isachsen's Plateau (29%) is purely dependent on the low wind velocity at the former station, such that in spite of the relatively high air temperature the heat supplied by convection is insignificant.

Eriksson remarks (p. 46): "the heat equilibrium for a glacier's ablation is governed not only by the radiation conditions and the meteorological factors, but also by its position and orientation for wind and radiation. Just as the accumulation conditions on a glacier vary from place to place, so also must the ablation conditions be greatly affected by locality. In order in such cases to compare the conditions in different areas of investigation it is clearly necessary that in topography the different areas should resemble each other as much as possible." This is useful advice for future comparative work that may be carried out elsewhere.

Part IV ends with a discussion upon the great variation of ablation factors from place to place even at exactly the same time of year. "In general it may be said that these variations reflect the different climatic conditions" in the particular localities (p. 48). On the basis of these climatic conditions and the factors involved, *i.e.* in as far as they have yet been fully assessed, Ahlmann has divided the glaciers round the Scandic, which he has studied, into two groups: Arctic Maritime, which includes the glaciers of west Spitsbergen, and Arctic Continental, embracing North East Land West Ice and the coastal glaciers of North-East Greenland. This climatic classification incidentally must not be confused with Ahlmann's geophysical classification of glaciers. Fröya glacier has been found to lie on the border of the Arctic Continental zone, where the neighbouring Arctic Maritime zone has a marked influence upon its regime. Not all however is as yet fully ascertained, particularly in the higher regions as well as over the Inland Ice, and future investigations can be usefully extended to include the opening and closing stages of the ablation season, whose effects are so far practically undetermined.

In conclusion, it should be emphasized that this comprehensive report as a whole, taken in conjunction with the prolonged earlier researches of Professor Ahlmann and his collaborators, researches moreover that are outstanding for the volume of their quantitative as opposed to mere qualitative observation, has given a splendid lead to the science of glaciology as we know it to-day.

N. E. ODELL

REVIEWS

EUROPE

BRITAIN'S MOUNTAIN HERITAGE, and its preservation as National Parks. By ARTHUR GARDNER. *London: Batsford*, 1942. 9×6 *inches;* xii+52 *pages; illustrations and map.* 12*s* 6*d*

This book is worthy of the attention of all mountain lovers. It is however a book with a divided object. It contains not only pictures of our finest scenery but a reasoned and sensible plea for the preservation of certain areas as National Parks. Most walkers long for the time when their wanderings shall not be too strictly curtailed. This is a small thickly populated country and one would like to see access free to mountain tops, coastlines, and lake-shores with a reasonable margin of privacy left around houses.

The author treats this difficult problem with wisdom and restraint. He expresses the gratitude that England owes to many of its wealthy landowners for what they have done in the creation and preservation of beauty. He directs his efforts at preservation mainly upon the Lake District, Snowdonia, and the Western Highlands of Scotland. The Lake District with its concentration of beauty in so compact a space should have first claim as a National Park. To carry this out he suggests that its jurisdiction should be taken out of the hands of the three counties in which it lies and be placed under a specially selected body. This seems a vital necessity. Working men, farmers, tradesmen, and professional men may be splendid people but they all live in some manner upon the land that provides their dwelling-place. They cannot always be expected to take a national view of things when their own interests are concerned. Another possible site for a national park consists of the magnificent mountain surroundings of Snowdon. The Western Highlands present a different problem. Difficulty of access, great distances between individual points of beauty, the threat of water-power schemes in unsuitable places, forestry projects, all make the solution less simple.

The pictures make the chief interest of the book. Its pages are a happy hunting-ground for "the ambler, the rambler, and the scrambler" if one may make use of Haskett-Smith's expression. The author thinks Ullswater the most beautiful English lake but prefers the middle reach to the upper one. He rightly praises the lower end of Ennerdale as one of the most magnificent view-points. His views of this lake and the quartette from Wastwater are specially good. Snow, as a good continuous cap, magnifies the beauty and grandeur of mountains, but when it has reached the melting condition, lying only in the cracks and crannies, it is not always an ornament. Even in this state however it may give geological interest to views, especially on the Torridon sandstone area, where the mountain masses look like monsters from some earlier world. Snowdon from Glyder Fach gives a striking result and several pictures do justice to the various llyns. Some of the most satisfying of the Scotch views are those from Blaven, the Cuillins, and the great sea-lochs which open opposite to Skye.

There are very few misprints in the book. On page 22 last line but one, "promoting" is evidently a misprint for "preventing" and it makes the author say exactly the opposite of what he advocates. A well-deserved tribute is paid to the National Trust and the Friends of the Lake District for their efforts to deal with the nuisance arising from the Leadmines of Glenridding. T. H.

ASIA

ARABIA AND THE ISLES. By HAROLD INGRAMS. *London: John Murray*, 1942. 9×6 *inches;* xvi+368 *pages; frontispiece and map.* 18*s*

In recent years several travellers of note have turned their footsteps towards the Hadhramaut, adding much to our knowledge of previously unexplored regions; one need but mention Philby, Thomas, van der Meulen, and von Wissmann. Great Britain, in the face of Italian aspirations in the Red Sea, has found it politic to develop closer relations with Hadhramaut, already connected by treaty with Aden. The penetration into Hadhramaut described by Mr. Ingrams, though political, opens a vast field for research, presenting opportunities as yet little explored.

Mr. Ingrams commences with a brief colourful account of his early experiences as an administrator in Zanzibar and the Mauritius, but his main theme is Southern Arabia. After describing his arrival in Aden and first political experiences in the Western Protectorate, he tells us of his exploration of the Hadhramaut on behalf of the Aden Government, and more especially of the unknown Mahra region. The last part of the book is devoted to an exposition of that policy which aims at building internal peace on the basis of the existing framework of Hadhrami society, without imposing it by armed force from without. Truces are arranged between hostile tribes and confederations, and the damages for past violations of rights assessed.

It is evident from Mr. Ingrams' book that peace, desired by almost all parties, can exist in South Arabian society, providing that existing grievances can be compensated and effectual punishment meted out to offenders who will not submit to arbitration of their disputes, or abide by the decisions of the judges. Judgement and compensation money are mainly provided by the venerated class of Seiyids (especially of the Al Kaf family) and the Sultans; arbitration is upheld by the threat of British arms, a threat which it is not often necessary to carry into execution. The Royal Air Force is used to maintain peace and provide swift communication; thus it is possible to strike at offenders in a way impossible before 1914 when some thousands of troops were required for a punitive expedition only as far away from Aden as Dhala'.

Hadhramaut is encouraged to develop along the lines implicit in its present social organization, the powers of the ruling Sultans however, becoming defined and effective to a greater degree. Under twentieth-century conditions, it is inevitable that Hadhramaut should come under some external control, but British influence has not at the same time opened it to foreign economic exploitation. Economically Hadhramaut is dependent on its foreign interests, derived from the mercantile activities of Hadhrami emigrants to the East Indies and Africa. British assistance is largely advisory and technical, taking the practical forms of developing what natural resources the country possesses and increasing exports. The Al Kaf family has attempted to improve communications. Appropriately Mr. Ingrams' concluding chapter deals with plans for the future, and the experiments made in agriculture, trade, education, public health, and finance, though naturally all these are still at a very elementary stage.

Perhaps because this is mainly a political book, Mr. Ingrams is able to give

us so faithful a first-hand impression of the social life of the people, mainly settled tribes whose activities are regulated by unwritten customary law. The manners, customs, beliefs, and superstitions of the Hadhramis are sympathetically described. The collection of these is valuable and an urgent task; many of the beliefs are very ancient, even Pre-Islamic, and in Yemen they are already beginning to be forgotten. The photographs of the tombs of the Koranic figures Hud and Salih are especially interesting, the cult of the saint being an important feature of Arab life. Notes on antiquities and inscriptions are frequent. Some transliterations may be queried by the pedant, as for instance, rakh for rak, and fitina for fitna.

'Arabia and the Isles' is illustrated with excellent photographs throughout, not merely picturesque, but documentary as well, in particular those of Sei'ar types. This very readable book has a sympathetic and subjective approach to the Arabs, the result of the practical everyday contact of the author and his intrepid wife with the Hadhrami during a long term of residence. His characters are the real people of the country, not merely picturesque natives with quaint oriental sayings. R. B. S.

AFRICA

NORTH AFRICA. By ALAN HOUGHTON BRODRICK. *Oxford: Univ. Press*, 1942. $7\frac{1}{2} \times 4\frac{1}{2}$ *inches;* vi+98 *pages; illustrations and sketch-maps.* 3*s* 6*d*

This new volume of the World of To-day Series is packed with information; its size is the only limit to its interest. Appearing at a time when North Africa was again freshly in the news, it is not surprising that a second edition, with an additional chapter to keep pace with more recent happenings, was speedily called for. Mr. Brodrick writes attractively, has a gift for description of the broad geographical scene, knows his subject well, and, as an ethnographer, is careful to trace basic racial currents as a living force in modern developments.

He is concerned in this volume with regions lying west of Egypt, along the belt of coast north of the Sahara, and including, beyond the Atlas mountains, the whole of Morocco, this last belonging, he remarks, to the "so-called White Africa that anthropologists deny is Africa at all." To the entire area the author applies the name Barbary, familiar to our sea-going forebears, and, surveying the various regions he writes of the chequered history of these lands of many invasions, with their "Saracen" and Roman remains; discusses Islamic influence; products of the soil; modern transport systems; and the results of French, Italian, and Spanish occupations in Tunis, Algeria, Tripolitania, and Morocco. Mr. Brodrick makes the point that the rule of the French in North Africa has been the most fruitful, and considers that "the prestige of France in the realm of the spirit is not as yet much impaired."

An interesting section deals with the policies and methods of German infiltration into Barbary since the fall of France. More recent events have put an end to these plans, but the lesson and its moral are plain enough. The book should help to satisfy awakened interest in North Africa. L. E. J.

EUROPEANS IN WEST AFRICA, 1450–1560. Editor J. W. BLAKE. Documents [on] . . . Portuguese enterprise in W. Africa, the abortive attempt of Castilians to create an empire there, and the early English voyages to Barbary and Guinea. (2 vols. 2nd Series, 86 and 87, issued for 1941 and 1942.) *London: For the Hakluyt Society*, 1942. 9×6 *inches;* xxxvi+246 *and* xii+247–462 *pages; maps.* £2 14*s*

While a number of critical documentary studies (most of them already available in the publications of the Hakluyt Society) deal with the discovery and

settlement of Guinea by Prince Henry and his immediate successors, none, until now, has carried the story very far into the sixteenth century. In this latest publication of the Hakluyt Society Mr. Blake has brought together, translated, and edited all the available material bearing on the general situation in West Africa during this strangely neglected period.

The documents printed—some of them for the first time—in these two volumes are divided into three sections. The first section deals with the nature and scope of Portuguese enterprise during the century under review; the second, with a little-known (but nonetheless remarkable) series of Castilian voyages undertaken between the years 1454 and 1480; and the third section with records of English activity in Barbary and Guinea between 1480 and 1560.

Each section is preceded by a critical essay on the achievements of the nations concerned. Of these essays the one on "Early Castilian voyages to West Africa" is probably most valuable, for in this Mr. Blake demonstrates two things: that these voyages were significant for their contribution to the discovery of Guinea and the development of its trade; and that they take their place in "the true historical background to the discovery of America." He shows, for instance, that the closing by the Portuguese, in 1480, of the Guinea coast to foreign *entrepreneurs* merely served to divert the attention of the Castilians westwards across the ocean. Seen from this angle, the first voyage of Columbus was no isolated, pioneer venture, but an integral part of a wider movement of overseas exploration which had gathered momentum with each successive expedition down the African coast. Mr. Blake's conclusion, which in face of the evidence marshalled by him is not easily controverted, is that just as "the opening of the route to India was the final result of Portuguese exploration in Guinea, the discovery of that to America was equally the direct outcome of Andalusian enterprise in Guinea" (p. 199, volume I).

In such an able and painstaking piece of research one regrets that the editor has not annotated his documents more fully and more critically. Many errors of fact are allowed to pass unnoticed: thus on p. 149, volume I, an anonymous pilot writing about 1540 declares that at Santiago in the Cape Verde archipelago it rains "almost continuously" during the month of June. Actually June, in common with the months on either side of it, is practically rainless, and the total annual fall is not more than half a dozen inches. This being the case, it is difficult to see how the natives succeeded in growing the maize, cotton, rice, etc., attributed to their economy. Again, on pp. 154–5, volume I, equally erroneous climatic information concerning Sierra Leone is quoted without comment. That the editor is not too strong on the physical side is evident from a statement made in his own introduction to the effect that the island of Saõ Thomé has a "very heavy rainfall." Judged by tropical standards 40–50 inches is not overabundant, and the months of June to September are practically rainless; nor by any stretch of the imagination, even when allowance is made for the mountainous interior, can the island be said to have "almost every variety of climate."

More serious is the omission of any but a passing reference to the cartographical documents of the period. While for the fifteenth century these are somewhat scanty, this is not the case from 1500 onwards. Without doubt, a close examination of them would do much to fill the remaining gaps in our knowledge of the precise chronology of West African exploration and settelment. It is to be hoped that Mr. Blake will some day be able to turn his attention to this aspect of a subject he is making all his own. Meantime the Hakluyt Society can congratulate itself on having added two scholarly volumes to its already long list of African studies.

G. H. T. K.

CENTRAL AND SOUTH AMERICA

CENTRAL AMERICA: challenge and opportunity. By CHARLES MORROW WILSON. *London: George Allen and Unwin*, 1942. 8½×5½ *inches;* x+294 *pages; illustrations.* 12*s* 6*d*

The author begins by re-naming his book 'Middle America' because he is omitting Mexico and admitting Colombia and the West Indies. Detailed treatment is reserved for Cuba, Jamaica, and the mainland States exclusive of British Honduras, which receives passing mention as a section of Honduras. The first half of the book is descriptive geography; the second half commercial geography. It has a thesis that commerce is the surest security for peace; that all regions of the Americas are neighbours; that neighbours should trade, for choice, with each other, irrespective of costs; that the continent should be as self-sufficing as possible; that goodwill and good business minister to each other. If this last axiom has not come true in the past in Middle America the failure is due, the author thinks, to the shortcomings, both commercial and personal, of his fellow-countrymen of the United States, shortcomings which he reveals in no measured terms, with exhortations to them to do otherwise in future, because that pays. In his experience his thesis applies even more to Middle than to South America. Certainly his book brings us the latest news that a book can bring of the notable advances occurring in these regions in scientific industry and in care for the well-being of the workers: especially valuable for Cuba and Colombia. The arrangement is clear and the author gives us the details we need to know as to how far, and when, he has been able to take stock of the enormous and inaccessible areas that his title covers. The difference that radio and aviation make in areas which road and rail have not yet been able to penetrate, is well brought out. His account of unexploited raw materials and potentialities in these countries is impressive. Altogether, it is a hopeful and enterprising book, in every way suited to the public it was written for, traders of North America.

Here however it must be reviewed as a book for the English reading-public. From that point of view the author does more than justice to his thesis and less than justice to his subject. His style of writing is too emphatic for his eulogies to have effect. The magnificence of the scenery, the unusual beauty of much of the architecture, the wonders of the aerial journeys with Pacific and Atlantic oceans visible simultaneously: all tend to sink into melodrama in 'Central America.' Details and points of view are often open to question. To expect that the past errors of the white peoples once admitted and not repeated, are as good as forgiven and forgotten, surely underestimates the depth of the feelings they have aroused amongst the Indians of the mainland. Throughout official versions are over-readily accepted; the figures given for the diminution of illiteracy in Costa Rica, as compared with Europe, are misleading. Moreover haste is apparent in many details, such as that "Smaragus" is the Greek for emerald and that the Mayan civilization may have been better acquainted with astronomy than are modern astronomers. In case a second edition is called for it is worth mentioning that the Spanish of pp. 20, 28, 33, 59, 85, 87, 88, 90, 131, 222, 241, wants amending.

E. S. B.

THE MONTHLY RECORD

HONORARY PRESIDENT

At the Meeting of the Society on February 15 the President announced that Her Royal Highness the Duchess of Kent had been graciously pleased to accept the office of Honorary President of the Society, in succession to His late Royal Highness the Duke of Kent.

THE NATIONAL GEOGRAPHIC SOCIETY'S MAPS

The National Geographic Society of Washington has issued an important series of maps to enable its members to follow the fortunes of war on all continents and oceans. These maps have received a warm welcome in America and in this country. Among the more important issues are the maps of Europe and the Near East, the Atlantic Ocean, and the Indian Ocean. The map of the Pacific Ocean in this series was mentioned at the meeting of our Society on April 13 last year. They may be obtained from the National Geographic Society, price 75 cents each.

These maps are large, the largest being some 40 inches long. The scales vary from 1/6M. to 1/20M. The maps are printed in colour, the political boundaries being clearly shown, and a large number of names are given, an excellent feature. The clear marking of the oil pipe lines is valuable. The maps of the oceans give the currents, the sailing courses with distances, and the airways; interesting historical notes are added.

For the cartographer the choice of the projections is of importance. The following projections have been adopted: Azimuthal Equidistant, Transverse Polyconic, Azimuthal Equal-Area, Equal-Area Polyconic, Stereographic, and Mercator's, a liberal selection. The two polyconic projections are of special interest to us, for they do not seem to have been made use of by British map-makers. The Transverse Polyconic presents no technical difficulty. As to the Equal-Area Polyconic Projections, the dictum of Laborde is that there is an infinite number of these; but Oscar S. Adams, in his little treatise on the 'General theory of Polyconic Projections,' remarks, "No one of the strictly polyconic equivalent projections has ever become of practical importance, because they would generally be complicated both for computation and construction." However here is a case in which, for the map of South America, an Equal-Area Polyconic Projection has been adopted. It would be interesting to know the formulæ used and the method of construction. C. F. ARDEN-CLOSE.

THE OASIS OF EL 'ATRUN

The Director of Surveys, Sudan Government, kindly sends for our information the following note:

In the *Geographical Journal*, vol. 82, pp. 117–8, Colonel (then Major) R. A. Bagnold stated that the Arabs call the oasis, commonly known as Bir Natrun, by the name El Atrun. In correct transliteration عطرون is rendered '*atrun*, the local arabic word for rock-salt. The matter was referred to the Director of the Sudan Survey Department in 1933. Opinions in the Sudan at that time differed as to the correct name and Bir Natrun was retained since it had appeared on maps for many years.

Within the last two years the oasis has been visited by Mr. G. M. Moore, District Commissioner at Kutum in N. Darfur, and Mr. R. C. Wakefield, of the Survey Department. The former considers the correct name is Bir 'Atrun, the latter El 'Atrun. Mr. P. J. Sandison, who was stationed at Kutum, and went to

the oasis in 1931–32, favours Bir el 'Atrun. The available evidence is therefore strongly in favour of Messrs. Bagnold and Shaw's contention. Reserving the prefix *bir* (=well) for the individual wells in the area, it was proposed to the Civil Secretary, Sudan Government (Mr. D. Newbold) that the form El 'Atrun be adopted for the oasis on all maps. The change has received official sanction.

Messrs. Bagnold and Shaw considered that the name Bir Natrun should be applied to the most northerly of the wells in El 'Atrun oasis. Local opinion conflicts with this and it has been decided to adopt Bir 'Atrun for the name of this well, which lies amongst the salt-beds. The form Natrun seems to appear in Egyptian usage. Its complete disappearance from official Sudan maps will help to regularize the correct name, El 'Atrun, for this famous oasis.

A portion of Sheet 44F 1/250,000 *with the consequent corrections was attached to this note, and is preserved in the Map Room.*

PLACE-NAMES IN THE IRISH FREE STATE

The Permanent Committee on Geographical Names has been officially informed by the High Commissioner for Ireland of the following points in connection with Irish names:

Article 4 of the Constitution of Ireland states that the name of the State is Éire, or, in the English language, Ireland. The following changes of geographical names are now officially recognized:

Former English Official Name	*Irish Official Name*		*Pronunciation*
	Gaelic Script	*Roman Script*	
King's County	Uí Fáilge	Uí Failghe	Ŏfālī
Queen's County	Laoiġis	Laoighis	Līsh
Navan	An Uaimh	An Uaimh	Ŏn Ūĭv
Kells	Ceanannas Mór	Ceanannas Mór	Kănonus Mōr (palatal k)
Queenstown	Cóbh	Cóbh	Kōv
Kingstown	Dún Laoġaire	Dún Laoghaire	Dhūn Lērĕ
Charleville	Ráth Luirc	Ráth Luirc	Raw Lirk
Newbridge	Droichead Nua	Droichead Nua	Dhrĕhădh Nūă
Bagenalstown	Muine Bheag	Muine Bheag	Mwinĕ Vĕg (guttural g)
Maryborough	Port Laoighise	Port Laoighise	Purthlīshĕ
Kingwilliamstown	Baile Deasmhumhna	Baile Deasmhumhna	Bălidĕzmŏnd
Philipstown	Daingean	Daingean	Dhangăn
Edgeworthstown	Meathas Truim	Meathas Truim	Măhus Thrim
Mountcharles	Tamhain an tSalainn	Tamhain an tSalainn	Tántălŏn
Binghamstown	An Geata Mór	An Geata Mór	Ŏn Gathă Mōr (palatal g)

For three of the above, English conventional names are given: Offaly for Uí Failghe, Ballydesmond for Baile Deasmhumhna, and Tantallon for Tamhain an tSalainn.

On the general question of the transliteration from Irish to Roman characters the official practice is as follows: Short vowels are shown by the corresponding Roman characters, accented vowels are written with an accent, and diphthongs and triphthongs are indicated *literatim*, *e.g.* ea, ui, eoi, aoi. Consonants are given their corresponding Roman characters without reference to pronunciation.

The pronunciation, hard or soft, broad or slender, is indicated by the

adjacent vowel, *e* and *i* being the slender vowels. Eclipsis, that is "the suppression of the sounds of certain radical consonants" (O.E.D.), which is indicated in Irish by prefixing the eclipsing consonant, is similarly shown in transliteration. Aspiration is shown by the use of the aspirate *h* immediately after the consonant aspirated.

A general tendency exists at present towards the omission, particularly in terminations, of mute consonants and syllables. For example, the word oifigeamhail, meaning official, is now generally written oifigiúl. This tendency is of course followed in transliteration.

Two names should be specially noted as they differ from the forms given by the Colonial Office and published in a note on "Place-names in the Irish Free State" in the *Journal* for 1924, vol. 63. They are Ceanannas Mór instead of Ceannanus Mor for Kells, An Uaimh instead of Baile na h Uaimhe for Navan.

THE PRIME MERIDIAN

We have received from the Under Secretary of State for Foreign Affairs a translation of an article which was published in *Petermanns Mitteilungen* for September 1942.

Under the title "The German Prime Meridian" Dr. W. Eggers, of Berlin, proposes that 330° East or 30° West of Greenwich shall be chosen as Null-meridian for German and European cartography and justifies his proposals by arguments of which the following is a summary. The British national meridian of Greenwich has become widespread throughout the world owing to the former predominance of the British Empire and British shipping, and also but not finally to the cartographical imperialism of the British. The field of British official cartography, as more recently that of Soviet Russia also, is the whole world; the production, mainly private, of general maps in the remaining countries has fallen under its lead.

The prime meridian of Greenwich has the considerable disadvantage of needlessly cutting through Europe and Africa. The term Greenwich is no longer tolerable either in the German or in the future European official and non-official production of maps, since the Germans are in mortal conflict with the British Empire and its collaborators.

The advantages of moving the prime meridian 30° westward are that it gives a continuous reckoning beginning to the west of Europe and Africa; that since 30 is divisible by 10, 6, and 15 there is a convenient relation between the proposed new and the existing Greenwich reckoning, there is no change in the sheet-lines of the International 1/Million map and its derivatives, no new formation of the Gauss-Krüger meridians, and no alteration of the time-meridians. The designation Nullmeridian may be abbreviated to N.M., which signifies also new or normal meridian, understandable in other cultured European languages.

In view of the advantages of a change in the reckoning of longitude, but also of the difficulties of any readjustment, the Editor of *Petermann* publishes the article to induce further expressions of opinion.

The author has not remarked that a similar but much earlier proposal of M. Lallemand, that longitudes be measured eastward from the anti-meridian of Greenwich, was adopted at the Conference of London in 1909, for numbering the sheets of the 1/Million map.

OBITUARY

MR. L. H. McCABE

News has just been received that L. H. McCabe was killed in action with t Hong Kong Local Defence Force on Christmas Day, 1941.

Whilst still an undergraduate Hugh McCabe joined two Cambridge Expe tions to Iceland in 1936 and 1937, and in 1938 he led his own expedition Spitsbergen. When subsequently he went to Hong Kong as a surveyor in t Colonial Service, he had already made preliminary plans for a further expediti to Spitsbergen to take place during his first leave. He carried out some min surveys, but perhaps his main interest on expeditions was in geomorpholo and he summed up some of his careful and original observations in a paper this *Journal* (94 (1939) 447). He will be chiefly remembered by those w were fortunate enough to accompany him on expeditions for his compl self negation, and a degree of thoughtfulness and consideration for others t had to be experienced to be believed. Disinterested service which would n attract attention to himself he was all the keener to do, and no one could sh with him the rough and tumble of expedition life without feeling deep grateful for having shared these experiences, and very humbled by the stand he set.

He was elected a Fellow of the Society in 1938. W. V.

MEETINGS: SESSION 1942–43

Fifth Meeting, 7 December 1942. The President in the Chair

Paper: The Scott Report on land utilization in rural areas. By Dr. L. Dud Stamp

Sixth Meeting, 14 December 1942. The President in the Chair

Elections: Lieut. R. T. Blayney, R.E.; Mrs. Frederick Byass; Alexan Campbell, M.A.; Professor Emerson C. Cox, M.A., PH.B., B.D.; Kenn Gilbart-Barber; Dr. Nis Alvin Jepson, B.SC., CH.D.; Edgar James Joint, O.B. Paule H. J. Lagarde, B.LITT.; Duncan McRoberts; Sir Kenneth Murchi Otto Popper; Geoffrey Russell; Jack Spurway

Paper: The Mackenzie Lakes to Hudson Bay and the routes of early explo traced on air photographs. By Major J. T. Wilson

Seventh Meeting: 21 December 1942

Mount Everest Films from the Expeditions of 1922 and 1933 and the Fl of 1933